```
  * * * * * * * * * * * * * STN  Columbus  * * * * * * * * * * * * * * *

FILE 'HOME' ENTERED AT 15:36:22 ON 31 MAR 2003

=> fil .bec
COST IN U.S. DOLLARS                                    SINCE FILE      TOTAL
                                                           ENTRY    SESSION
FULL ESTIMATED COST                                         0.21       0.21

FILES 'MEDLINE, SCISEARCH, LIFESCI, BIOTECHDS, BIOSIS, EMBASE, HCAPLUS, NTIS,
       ESBIOBASE, BIOTECHNO, WPIDS' ENTERED AT 15:36:32 ON 31 MAR 2003
ALL COPYRIGHTS AND RESTRICTIONS APPLY.  SEE HELP USAGETERMS FOR DETAILS.

11 FILES IN THE FILE LIST

=> s catalase#
FILE 'MEDLINE'
L1        21066 CATALASE#

FILE 'SCISEARCH'
L2        15664 CATALASE#

FILE 'LIFESCI'
L3         5302 CATALASE#

FILE 'BIOTECHDS'
L4         1111 CATALASE#

FILE 'BIOSIS'
L5        26335 CATALASE#

FILE 'EMBASE'
L6        17042 CATALASE#

FILE 'HCAPLUS'
L7        37415 CATALASE#

FILE 'NTIS'
L8          227 CATALASE#

FILE 'ESBIOBASE'
L9         6619 CATALASE#

FILE 'BIOTECHNO'
L10        5266 CATALASE#

FILE 'WPIDS'
L11        1392 CATALASE#

TOTAL FOR ALL FILES
L12      137439 CATALASE#

=> s l12(10a)(muta? or variant#)
FILE 'MEDLINE'
         401143 MUTA?
          87455 VARIANT#
L13         456 L1 (10A)(MUTA? OR VARIANT#)

FILE 'SCISEARCH'
         378208 MUTA?
          91248 VARIANT#
L14         402 L2 (10A)(MUTA? OR VARIANT#)

FILE 'LIFESCI'
```

```
        182005 MUTA?
         30190 VARIANT#
L15        278 L3 (10A)(MUTA? OR VARIANT#)

FILE 'BIOTECHDS'
         33155 MUTA?
          9445 VARIANT#
L16         40 L4 (10A)(MUTA? OR VARIANT#)

FILE 'BIOSIS'
        448444 MUTA?
         92378 VARIANT#
L17       1421 L5 (10A)(MUTA? OR VARIANT#)

FILE 'EMBASE'
        326752 MUTA?
         75791 VARIANT#
L18        396 L6 (10A)(MUTA? OR VARIANT#)

FILE 'HCAPLUS'
        410632 MUTA?
         84870 VARIANT#
L19        739 L7 (10A)(MUTA? OR VARIANT#)

FILE 'NTIS'
          9307 MUTA?
          4365 VARIANT#
L20          2 L8 (10A)(MUTA? OR VARIANT#)

FILE 'ESBIOBASE'
        183712 MUTA?
         31165 VARIANT#
L21        227 L9 (10A)(MUTA? OR VARIANT#)

FILE 'BIOTECHNO'
        221925 MUTA?
         37782 VARIANT#
L22        280 L10(10A)(MUTA? OR VARIANT#)

FILE 'WPIDS'
         20791 MUTA?
         20022 VARIANT#
L23         22 L11(10A)(MUTA? OR VARIANT#)

TOTAL FOR ALL FILES
L24       4263 L12(10A)(MUTA? OR VARIANT#)

=> s l12(10a)gene/q
FILE 'MEDLINE'
L25        685 L1 (10A)GENE/Q

FILE 'SCISEARCH'
L26        854 L2 (10A)GENE/Q

FILE 'LIFESCI'
L27        418 L3 (10A)GENE/Q

FILE 'BIOTECHDS'
L28         92 L4 (10A)GENE/Q

FILE 'BIOSIS'
L29        997 L5 (10A)GENE/Q

FILE 'EMBASE'
```

```
L30         590 L6  (10A)GENE/Q

FILE 'HCAPLUS'
L31        1229 L7  (10A)GENE/Q

FILE 'NTIS'
L32           4 L8  (10A)GENE/Q

FILE 'ESBIOBASE'
L33         422 L9  (10A)GENE/Q

FILE 'BIOTECHNO'
L34         538 L10(10A)GENE/Q

FILE 'WPIDS'
L35          64 L11(10A)GENE/Q

TOTAL FOR ALL FILES
L36        5893 L12(10A) GENE/Q

=> s l24 and l36
FILE 'MEDLINE'
L37         130 L13 AND L25

FILE 'SCISEARCH'
L38         127 L14 AND L26

FILE 'LIFESCI'
L39          91 L15 AND L27

FILE 'BIOTECHDS'
L40          10 L16 AND L28

FILE 'BIOSIS'
L41         156 L17 AND L29

FILE 'EMBASE'
L42         119 L18 AND L30

FILE 'HCAPLUS'
L43         192 L19 AND L31

FILE 'NTIS'
L44           0 L20 AND L32

FILE 'ESBIOBASE'
L45          83 L21 AND L33

FILE 'BIOTECHNO'
L46          99 L22 AND L34

FILE 'WPIDS'
L47           5 L23 AND L35

TOTAL FOR ALL FILES
L48        1012 L24 AND L36

=> s l48 not 1998-2003/py
FILE 'MEDLINE'
       2520269 1998-2003/PY
L49          65 L37 NOT 1998-2003/PY

FILE 'SCISEARCH'
       4997759 1998-2003/PY
```

```
L50         57 L38 NOT 1998-2003/PY

FILE 'LIFESCI'
        531813 1998-2003/PY
L51         42 L39 NOT 1998-2003/PY

FILE 'BIOTECHDS'
         81670 1998-2003/PY
L52           4 L40 NOT 1998-2003/PY

FILE 'BIOSIS'
       2789123 1998-2003/PY
L53         88 L41 NOT 1998-2003/PY

FILE 'EMBASE'
       2244462 1998-2003/PY
L54         61 L42 NOT 1998-2003/PY

FILE 'HCAPLUS'
       4700020 1998-2003/PY
L55        104 L43 NOT 1998-2003/PY

FILE 'NTIS'
        102812 1998-2003/PY
L56           0 L44 NOT 1998-2003/PY

FILE 'ESBIOBASE'
       1456133 1998-2003/PY
L57         27 L45 NOT 1998-2003/PY

FILE 'BIOTECHNO'
        600123 1998-2003/PY
L58         48 L46 NOT 1998-2003/PY

FILE 'WPIDS'
       4035614 1998-2003/PY
L59           3 L47 NOT 1998-2003/PY

TOTAL FOR ALL FILES
L60        499 L48 NOT 1998-2003/PY

=> dup rem l60
PROCESSING COMPLETED FOR L60
L61         154 DUP REM L60 (345 DUPLICATES REMOVED)

=> d tot

L61  ANSWER 1 OF 154  WPIDS (C) 2003 THOMSON DERWENT
TI   Determining susceptibility of Mycobacterium tuberculosis strains to
     isoniazid - by detecting mutation(s) in the catalase
     -peroxide gene, katG.
PI   US 5658733    A  19970819 (199739)*      38p    C12Q001-68
IN   COCKERILL, F R; KLINE, B C; UHL, J R

L61  ANSWER 2 OF 154     MEDLINE                          DUPLICATE 1
TI   Catalase-peroxidase of Caulobacter crescentus: function and role in
     stationary-phase survival.
SO   JOURNAL OF BACTERIOLOGY, (1997 Nov) 179 (21) 6831-6.
     Journal code: 2985120R. ISSN: 0021-9193.
AU   Steinman H M; Fareed F; Weinstein L
AN   1998012985     MEDLINE

L61  ANSWER 3 OF 154     MEDLINE                          DUPLICATE 2
TI   Cloning and mutational analysis of the gene for the
```

stationary-phase inducible **catalase** (catC) from Pseudomonas putida.
SO JOURNAL OF BACTERIOLOGY, (1997 Aug) 179 (16) 5241-5.
Journal code: 2985120R. ISSN: 0021-9193.
AU Miller C D; Kim Y C; Anderson A J
AN 97405928 MEDLINE

L61 ANSWER 4 OF 154 MEDLINE DUPLICATE 3
TI Cloning and disruption of the antigenic **catalase gene** of Aspergillus fumigatus.
SO INFECTION AND IMMUNITY, (1997 Nov) 65 (11) 4718-24.
Journal code: 0246127. ISSN: 0019-9567.
AU Calera J A; Paris S; Monod M; Hamilton A J; Debeaupuis J P; Diaquin M; Lopez-Medrano R; Leal F; Latge J P
AN 1998013105 MEDLINE

L61 ANSWER 5 OF 154 HCAPLUS COPYRIGHT 2003 ACS
TI RpoS- and OxyR-independent induction of HPI **catalase** at stationary phase in Escherichia coli and identification of rpoS **mutations** in common laboratory strains
SO Journal of Bacteriology (1997), 179(13), 4158-4163
CODEN: JOBAAY; ISSN: 0021-9193
AU Visick, Jonathan E.; Clarke, Steven
AN 1997:425488 HCAPLUS
DN 127:173746

L61 ANSWER 6 OF 154 HCAPLUS COPYRIGHT 2003 ACS
TI Overexpression, purification, and characterization of the catalase-peroxidase KatG from Mycobacterium tuberculosis
SO Journal of Biological Chemistry (1997), 272(5), 2834-2840
CODEN: JBCHA3; ISSN: 0021-9258
AU Johnsson, Kai; Froland, Wayne A.; Schultz, Peter G.
AN 1997:97416 HCAPLUS
DN 126:182963

L61 ANSWER 7 OF 154 MEDLINE DUPLICATE 4
TI Analysis of ahpC gene mutations in isoniazid-resistant clinical isolates of Mycobacterium tuberculosis.
SO ANTIMICROBIAL AGENTS AND CHEMOTHERAPY, (1997 Sep) 41 (9) 2057-8.
Journal code: 0315061. ISSN: 0066-4804.
AU Kelley C L; Rouse D A; Morris S L
AN 97447677 MEDLINE

L61 ANSWER 8 OF 154 MEDLINE DUPLICATE 5
TI Further genetic heterogeneity in acatalasemia.
SO ELECTROPHORESIS, (1997 Oct) 18 (11) 1942-3.
Journal code: 8204476. ISSN: 0173-0835.
AU Goth L
AN 1998080316 MEDLINE

L61 ANSWER 9 OF 154 MEDLINE DUPLICATE 6
TI Molecular analysis of katG gene mutations in strains of Mycobacterium tuberculosis complex from Africa.
SO ANTIMICROBIAL AGENTS AND CHEMOTHERAPY, (1997 Jul) 41 (7) 1601-3.
Journal code: 0315061. ISSN: 0066-4804.
AU Haas W H; Schilke K; Brand J; Amthor B; Weyer K; Fourie P B; Bretzel G; Sticht-Groh V; Bremer H J
AN 97354400 MEDLINE

L61 ANSWER 10 OF 154 SCISEARCH COPYRIGHT 2003 ISI (R)
TI Effects of overexpression of the alkyl hydroperoxide reductase AhpC on the virulence and isoniazid resistance of Mycobacterium tuberculosis
SO INFECTION AND IMMUNITY, (APR 1997) Vol. 65, No. 4, pp. 1395-1401.
Publisher: AMER SOC MICROBIOLOGY, 1325 MASSACHUSETTS AVENUE, NW,

WASHINGTON, DC 20005-4171.
ISSN: 0019-9567.
AU Heym B; Stavropoulos E; Honore N; Domenech P; SaintJoanis B; Wilson T M; Collins D M; Colston M J; Cole S T (Reprint)
AN 97:265157 SCISEARCH

L61 ANSWER 11 OF 154 HCAPLUS COPYRIGHT 2003 ACS
TI Polymorphism of 5' of the **catalase gene** in Hungarian acatalasemia and hypocatalasemia
SO Electrophoresis (1997), 18(7), 1105-1108
CODEN: ELCTDN; ISSN: 0173-0835
AU Goth, Laszlo; Vitai, Marta
AN 1997:456748 HCAPLUS
DN 127:186498

L61 ANSWER 12 OF 154 MEDLINE DUPLICATE 7
TI Survival of Escherichia coli exposed to visible light in seawater: analysis of rpoS-dependent effects.
SO CANADIAN JOURNAL OF MICROBIOLOGY, (1997 Nov) 43 (11) 1036-43.
Journal code: 0372707. ISSN: 0008-4166.
AU Gourmelon M; Touati D; Pommepuy M; Cormier M
AN 1998098700 MEDLINE

L61 ANSWER 13 OF 154 MEDLINE DUPLICATE 8
TI The role of ferredoxin-NADP+ reductase in the concerted cell defense against oxidative damage -- studies using Escherichia coli mutants and cloned plant genes.
SO EUROPEAN JOURNAL OF BIOCHEMISTRY, (1997 Oct 15) 249 (2) 556-63.
Journal code: 0107600. ISSN: 0014-2956.
AU Krapp A R; Tognetti V B; Carrillo N; Acevedo A
AN 1998036134 MEDLINE

L61 ANSWER 14 OF 154 HCAPLUS COPYRIGHT 2003 ACS
TI Homogenates of yeast cultures with engineered catalases F148V and V111A reveal higher specific activities after incubation at permissive temperature
SO Folia Microbiologica (Prague) (1997), 42(5), 457-462
CODEN: FOMIAZ; ISSN: 0015-5632
AU Zamocky, M.; Koller, F.
AN 1997:606480 HCAPLUS
DN 127:289695

L61 ANSWER 15 OF 154 HCAPLUS COPYRIGHT 2003 ACS
TI KatG mutations in isoniazid resistant Mycobacterium tuberculosis isolates from Thai patients
SO Southeast Asian Journal of Tropical Medicine and Public Health (1997), 28(2), 387-390
CODEN: SJTMAK; ISSN: 0125-1562
AU Paca-Uccaralertkun, S.; Chuchottaworn, C.
AN 1998:23931 HCAPLUS
DN 128:99732

L61 ANSWER 16 OF 154 HCAPLUS COPYRIGHT 2003 ACS
TI Identification of the peroxisomal targeting signal for cottonseed catalase
SO Plant Journal (1997), 12(2), 313-322
CODEN: PLJUED; ISSN: 0960-7412
AU Mullen, Robert T.; Lee, Michael S.; Trelease, Richard N.
AN 1997:642509 HCAPLUS
DN 127:304758

L61 ANSWER 17 OF 154 MEDLINE DUPLICATE 9
TI Isoniazid resistance and the point mutation of codon 463 of katG gene of Mycobacterium tuberculosis.
SO JOURNAL OF KOREAN MEDICAL SCIENCE, (1997 Apr) 12 (2) 92-8.

Journal code: 8703518. ISSN: 1011-8934.
AU Shim T S; Yoo C G; Han S K; Shim Y S; Kim Y W
AN 97313611 MEDLINE

L61 ANSWER 18 OF 154 MEDLINE DUPLICATE 10
TI Use of polymerase chain reaction single-strand conformation polymorphism (PCR-SSCP) analysis to detect a point **mutation** in the **catalase**-peroxidase **gene** (katG) of Mycobacterium tuberculosis.
SO MOLECULAR AND CELLULAR PROBES, (1997 Feb) 11 (1) 59-63.
Journal code: 8709751. ISSN: 0890-8508.
AU Temesgen Z; Satoh K; Uhl J R; Kline B C; Cockerill F R 3rd
AN 97231321 MEDLINE

L61 ANSWER 19 OF 154 HCAPLUS COPYRIGHT 2003 ACS
TI The Hansenula polymorpha PEX14 gene encodes a novel peroxisomal membrane protein essential for peroxisome biogenesis
SO EMBO Journal (1997), 16(1), 44-53
CODEN: EMJODG; ISSN: 0261-4189
AU Komori, Masayuki; Rasmussen, Soren W.; Kiel, Jan A. K. W.; Baerends, Richard J. S.; Cregg, James M.; van der Klei, Ida J.; Veenhuis, Marten
AN 1997:81226 HCAPLUS
DN 126:140411

L61 ANSWER 20 OF 154 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI PCR-RFLP detection of point **mutations** in the **catalase** -peroxidase **gene** (katG) of Mycobacterium tuberculosis associated with isoniazid resistance.
SO Persing, D. H. [Editor]. (1996) pp. 144-149. PCR protocols for emerging infectious diseases.
Publisher: American Society for Microbiology (ASM) Books Division, 1325 Massachusetts Ave. NW, Washington, DC 20005-4171, USA.
ISBN: 1-55581-108-6.
AU Uhl, James R. (1); Sandhu, Gurpreet S.; Kline, Bruce C.; Cockerill, Frank R., III
AN 1996:344108 BIOSIS

L61 ANSWER 21 OF 154 MEDLINE DUPLICATE 11
TI Annexin-like protein from Arabidopsis thaliana rescues delta oxyR mutant of Escherichia coli from H2O2 stress.
SO PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA, (1996 Oct 1) 93 (20) 11268-73.
Journal code: 7505876. ISSN: 0027-8424.
AU Gidrol X; Sabelli P A; Fern Y S; Kush A K
AN 97008169 MEDLINE

L61 ANSWER 22 OF 154 MEDLINE DUPLICATE 12
TI Cloning and genetic characterization of Helicobacter pylori **catalase** and construction of a **catalase**-deficient **mutant** strain.
SO JOURNAL OF BACTERIOLOGY, (1996 Dec) 178 (23) 6960-7.
Journal code: 2985120R. ISSN: 0021-9193.
AU Odenbreit S; Wieland B; Haas R
AN 97113460 MEDLINE

L61 ANSWER 23 OF 154 MEDLINE DUPLICATE 13
TI Oxidative stress response in an anaerobe, Bacteroides fragilis: a role for catalase in protection against hydrogen peroxide.
SO JOURNAL OF BACTERIOLOGY, (1996 Dec) 178 (23) 6895-903.
Journal code: 2985120R. ISSN: 0021-9193.
AU Rocha E R; Selby T; Coleman J P; Smith C J
AN 97113452 MEDLINE

L61 ANSWER 24 OF 154 MEDLINE DUPLICATE 14

TI Oxidative stress is involved in heat-induced cell death in Saccharomyces cerevisiae.
SO PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA, (1996 May 14) 93 (10) 5116-21.
Journal code: 7505876. ISSN: 0027-8424.
AU Davidson J F; Whyte B; Bissinger P H; Schiestl R H
AN 96209866 MEDLINE

L61 ANSWER 25 OF 154 HCAPLUS COPYRIGHT 2003 ACS
TI Ferric uptake regulator (Fur) mutants of Pseudomonas aeruginosa demonstrate defective siderophore-mediated iron uptake, altered aerobic growth, and decreased superoxide dismutase and catalase activities
SO Journal of Bacteriology (1996), 178(14), 3996-4003
CODEN: JOBAAY; ISSN: 0021-9193
AU Hassett, Daniel J.; Sokol, Pamela A.; Howell, Michael L.; Ma, Ju-Fang; Schweizer, Herbert T.; Ochsner, Urs; Vasil, Michael L.
AN 1996:438128 HCAPLUS
DN 125:110034

L61 ANSWER 26 OF 154 MEDLINE DUPLICATE 15
TI Heterologous growth phase- and temperature-dependent expression and H2O2 toxicity protection of a superoxide-inducible monofunctional **catalase gene** from Xanthomonas oryzae pv. oryzae.
SO JOURNAL OF BACTERIOLOGY, (1996 Jun) 178 (12) 3578-84.
Journal code: 2985120R. ISSN: 0021-9193.
AU Mongkolsuk S; Loprasert S; Vattanaviboon P; Chanvanichayachai C; Chamnongpol S; Supsamran N
AN 96256613 MEDLINE

L61 ANSWER 27 OF 154 MEDLINE DUPLICATE 16
TI Molecular characterization of a chromosomal region involved in the oxidation of acetyl-CoA to glyoxylate in the isocitrate-lyase-negative methylotroph Methylobacterium extorquens AM1.
SO MICROBIOLOGY, (1996 Jun) 142 (Pt 6) 1459-68.
Journal code: 9430468. ISSN: 1350-0872.
AU Chistoserdova L V; Lidstrom M E
AN 96262717 MEDLINE

L61 ANSWER 28 OF 154 MEDLINE DUPLICATE 17
TI Targeting of human catalase to peroxisomes is dependent upon a novel COOH-terminal peroxisomal targeting sequence.
SO JOURNAL OF CELL BIOLOGY, (1996 Aug) 134 (4) 849-62.
Journal code: 0375356. ISSN: 0021-9525.
AU Purdue P E; Lazarow P B
AN 96354904 MEDLINE

L61 ANSWER 29 OF 154 MEDLINE DUPLICATE 18
TI Site-directed **mutagenesis** of the katG **gene** of Mycobacterium tuberculosis: effects on **catalase**-peroxidase activities and isoniazid resistance.
SO MOLECULAR MICROBIOLOGY, (1996 Nov) 22 (3) 583-92.
Journal code: 8712028. ISSN: 0950-382X.
AU Rouse D A; DeVito J A; Li Z; Byer H; Morris S L
AN 97093977 MEDLINE

L61 ANSWER 30 OF 154 MEDLINE
TI Advances in genetic diagnostics for respiratory tract infections.
SO NIPPON RINSHO. JAPANESE JOURNAL OF CLINICAL MEDICINE, (1996 Feb) 54 (2) 560-9. Ref: 25
Journal code: 0420546. ISSN: 0047-1852.
AU Koga H
AN 96435228 MEDLINE

L61 ANSWER 31 OF 154 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.

DUPLICATE 19
TI Studies on molecular mechanism of isoniazid resistance in Mycobacterium tuberculosis.
SO Hunan Yike Daxue Xuebao, (1996) Vol. 21, No. 6, pp. 501-504.
ISSN: 1000-5625.
AU Cheng Guangjie, Xu Haiming; Xie Shensi; Pen Xinghua; Zhu Ding-Er
AN 1997:179820 BIOSIS

L61 ANSWER 32 OF 154 SCISEARCH COPYRIGHT 2003 ISI (R) DUPLICATE 20
TI 2 BARLEY **CATALASE GENES** RESPOND DIFFERENTIALLY TO LIGHT
SO PHYSIOLOGIA PLANTARUM, (MAR 1996) Vol. 96, No. 3, pp. 369-374.
ISSN: 0031-9317.
AU ACEVEDO A; SKADSEN R W; SCANDALIOS J G (Reprint)
AN 96:340786 SCISEARCH

L61 ANSWER 33 OF 154 MEDLINE DUPLICATE 21
TI catA, a new Aspergillus nidulans **gene** encoding a developmentally regulated **catalase**.
SO CURRENT GENETICS, (1996 Mar) 29 (4) 352-9.
Journal code: 8004904. ISSN: 0172-8083.
AU Navarro R E; Stringer M A; Hansberg W; Timberlake W E; Aguirre J
AN 96171518 MEDLINE

L61 ANSWER 34 OF 154 SCISEARCH COPYRIGHT 2003 ISI (R)
TI MOLECULAR MECHANISMS OF DRUG-RESISTANCE IN MYCOBACTERIUM-TUBERCULOSIS
SO ANNUAL REVIEW OF BIOCHEMISTRY, (1996) Vol. 65, pp. 215-239.
ISSN: 0066-4154.
AU BLANCHARD J S (Reprint)
AN 96:521641 SCISEARCH

L61 ANSWER 35 OF 154 MEDLINE DUPLICATE 22
TI Characterization of the **catalase**-peroxidase **gene** (katG) and inhA locus in isoniazid-resistant and -susceptible strains of Mycobacterium tuberculosis by automated DNA sequencing: restricted array of mutations associated with drug resistance.
SO JOURNAL OF INFECTIOUS DISEASES, (1996 Jan) 173 (1) 196-202.
Journal code: 0413675. ISSN: 0022-1899.
AU Musser J M; Kapur V; Williams D L; Kreiswirth B N; van Soolingen D; van Embden J D
AN 96132482 MEDLINE

L61 ANSWER 36 OF 154 HCAPLUS COPYRIGHT 2003 ACS
TI PCR-RFLP detection of point **mutations** in the **catalase** -peroxidase **gene** (katG) of Mycobacterium tuberculosis associated with isoniazid resistance
SO PCR Protocols for Emerging Infectious Diseases (1996), 144-149.
Editor(s): Persing, David H. Publisher: ASM Press, Washington, D. C.
CODEN: 63QSAR
AU Uhl, James R.; Sandhu, Gurpreet S.; Kline, Bruce C.; Cockerill, Frank R., III
AN 1996:720462 HCAPLUS
DN 126:15235

L61 ANSWER 37 OF 154 HCAPLUS COPYRIGHT 2003 ACS
TI Impaired oxidative stress resistance of Bacillus subtilis sigB mutants and the role of katA and katE
SO FEMS Microbiology Letters (1996), 145(1), 63-69
CODEN: FMLED7; ISSN: 0378-1097
AU Engelmann, Susanne; Hecker, Michael
AN 1996:663216 HCAPLUS
DN 126:16687

L61 ANSWER 38 OF 154 MEDLINE DUPLICATE 23

TI Analysis of isoniazid-resistant transposon mutants of Mycobacterium smegmatis.
SO FEMS MICROBIOLOGY LETTERS, (1996 Oct 15) 144 (1) 47-52.
Journal code: 7705721. ISSN: 0378-1097.
AU Billman-Jacobe H; Sloan J; Coppel R L
AN 97023930 MEDLINE

L61 ANSWER 39 OF 154 HCAPLUS COPYRIGHT 2003 ACS
TI Muscle-specific expression of Drosophila hsp70 in response to aging and oxidative stress
SO Proceedings of the National Academy of Sciences of the United States of America (1995), 92(22), 10408-12
CODEN: PNASA6; ISSN: 0027-8424
AU Wheeler, John C.; Bieschke, Erik T.; Tower, John
AN 1995:892664 HCAPLUS
DN 123:332069

L61 ANSWER 40 OF 154 MEDLINE DUPLICATE 24
TI Cloning and characterization of the katB **gene** of Pseudomonas aeruginosa encoding a hydrogen peroxide-inducible **catalase**: purification of KatB, cellular localization, and demonstration that it is essential for optimal resistance to hydrogen peroxide.
SO JOURNAL OF BACTERIOLOGY, (1995 Nov) 177 (22) 6536-44.
Journal code: 2985120R. ISSN: 0021-9193.
AU Brown S M; Howell M L; Vasil M L; Anderson A J; Hassett D J
AN 96062238 MEDLINE

L61 ANSWER 41 OF 154 MEDLINE DUPLICATE 25
TI Developmentally related responses of maize **catalase genes** to salicylic acid.
SO PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA, (1995 Jun 20) 92 (13) 5930-4.
Journal code: 7505876. ISSN: 0027-8424.
AU Guan L; Scandalios J G
AN 95320189 MEDLINE

L61 ANSWER 42 OF 154 MEDLINE DUPLICATE 26
TI Cloning, nucleotide **sequence**, and regulation of katE encoding a sigma B-dependent **catalase** in Bacillus subtilis.
SO JOURNAL OF BACTERIOLOGY, (1995 Oct) 177 (19) 5598-605.
Journal code: 2985120R. ISSN: 0021-9193.
AU Engelmann S; Lindner C; Hecker M
AN 96032397 MEDLINE

L61 ANSWER 43 OF 154 MEDLINE DUPLICATE 27
TI Biochemical and genetic analyses of a catalase from the anaerobic bacterium Bacteroides fragilis.
SO JOURNAL OF BACTERIOLOGY, (1995 Jun) 177 (11) 3111-9.
Journal code: 2985120R. ISSN: 0021-9193.
AU Rocha E R; Smith C J
AN 95286491 MEDLINE

L61 ANSWER 44 OF 154 MEDLINE DUPLICATE 28
TI Characterization of the katG and inhA genes of isoniazid-resistant clinical isolates of Mycobacterium tuberculosis.
SO ANTIMICROBIAL AGENTS AND CHEMOTHERAPY, (1995 Nov) 39 (11) 2472-7.
Journal code: 0315061. ISSN: 0066-4804.
AU Rouse D A; Li Z; Bai G H; Morris S L
AN 96139541 MEDLINE

L61 ANSWER 45 OF 154 MEDLINE DUPLICATE 29
TI Molecular mechanisms of isoniazid resistance in Mycobacterium tuberculosis and Mycobacterium bovis.
SO INFECTION AND IMMUNITY, (1995 Apr) 63 (4) 1427-33.

Journal code: 0246127. ISSN: 0019-9567.
AU Rouse D A; Morris S L
AN 95197272 MEDLINE

L61 ANSWER 46 OF 154 MEDLINE DUPLICATE 30
TI Molecular characterization of katA from Campylobacter jejuni and generation of a **catalase**-deficient **mutant** of Campylobacter coli by interspecific allelic exchange.
SO MICROBIOLOGY, (1995 Jun) 141 (Pt 6) 1369-76.
Journal code: 9430468. ISSN: 1350-0872.
AU Grant K A; Park S F
AN 95400491 MEDLINE

L61 ANSWER 47 OF 154 MEDLINE DUPLICATE 31
TI Absence of **mutations** in superoxide dismutase and **catalase genes** in patients with Parkinson's disease.
SO ARCHIVES OF NEUROLOGY, (1995 Dec) 52 (12) 1160-3.
Journal code: 0372436. ISSN: 0003-9942.
AU Parboosingh J S; Rousseau M; Rogan F; Amit Z; Chertkow H; Johnson W G; Manganaro F; Schipper H N; Curran T J; Stoessl J; +
AN 96094925 MEDLINE

L61 ANSWER 48 OF 154 MEDLINE DUPLICATE 32
TI Effect of inhA and katG on isoniazid resistance and virulence of Mycobacterium bovis.
SO MOLECULAR MICROBIOLOGY, (1995 Mar) 15 (6) 1009-15.
Journal code: 8712028. ISSN: 0950-382X.
AU Wilson T M; de Lisle G W; Collins D M
AN 95349387 MEDLINE

L61 ANSWER 49 OF 154 MEDLINE DUPLICATE 33
TI Antimicrobial agent resistance in mycobacteria: molecular genetic insights.
SO CLINICAL MICROBIOLOGY REVIEWS, (1995 Oct) 8 (4) 496-514. Ref: 181
Journal code: 8807282. ISSN: 0893-8512.
AU Musser J M
AN 96114209 MEDLINE

L61 ANSWER 50 OF 154 SCISEARCH COPYRIGHT 2003 ISI (R)
TI ANTIMICROBIAL AGENT RESISTANCE IN MYCOBACTERIA - MOLECULAR-GENETIC INSIGHTS
SO CLINICAL MICROBIOLOGY REVIEWS, (OCT 1995) Vol. 8, No. 4, pp. 496. ISSN: 0893-8512.
AU MUSSER J M (Reprint)
AN 95:707291 SCISEARCH

L61 ANSWER 51 OF 154 HCAPLUS COPYRIGHT 2003 ACS DUPLICATE 34
TI Sketch of landscapes in the protein **sequence** space around **catalase** I from Bacillus stearothermophilus
SO Tracing Biological Evolution in Protein and Gene Structures, Proceedings of the Taniguchi International Symposium, Division of Biophysics, 20th, Nagoya, Oct. 31-Nov. 4, 1994 (1995), Meeting Date 1994, 261-269. Editor(s): Mitiko, Go; Schimmel, Paul. Publisher: Elsevier, Amsterdam, Neth.
CODEN: 62IBAV
AU Yomo, Tetsuya; Trakulnaleamsai, Savitr; Urabe, Itaru
AN 1996:422172 HCAPLUS
Correction of: 1996:36836
DN 125:80451
Correction of: 124:110876

L61 ANSWER 52 OF 154 MEDLINE DUPLICATE 35
TI Rapid identification of a point **mutation** of the Mycobacterium tuberculosis **catalase**-peroxidase (katG) **gene**

associated with isoniazid resistance.
SO JOURNAL OF INFECTIOUS DISEASES, (1995 Jan) 171 (1) 240-5.
Journal code: 0413675. ISSN: 0022-1899.
AU Cockerill F R 3rd; Uhl J R; Temesgen Z; Zhang Y; Stockman L; Roberts G D; Williams D L; Kline B C
AN 95096574 MEDLINE

L61 ANSWER 53 OF 154 MEDLINE DUPLICATE 36
TI Missense **mutations** in the **catalase**-peroxidase **gene**, katG, are associated with isoniazid resistance in Mycobacterium tuberculosis.
SO MOLECULAR MICROBIOLOGY, (1995 Jan) 15 (2) 235-45.
Journal code: 8712028. ISSN: 0950-382X.
AU Heym B; Alzari P M; Honore N; Cole S T
AN 95264910 MEDLINE

L61 ANSWER 54 OF 154 MEDLINE DUPLICATE 37
TI A novel human **catalase mutation** (358 T-->del) causing Japanese-type acatalasemia.
SO BLOOD CELLS, MOLECULES, AND DISEASES, (1995) 21 (3) 232-4.
Journal code: 9509932. ISSN: 1079-9796.
AU Hirono A; Sasaya-Hamada F; Kanno H; Fujii H; Yoshida T; Miwa S
AN 96230929 MEDLINE

L61 ANSWER 55 OF 154 SCISEARCH COPYRIGHT 2003 ISI (R)
TI A NOVEL HUMAN **CATALASE MUTATION** (358-T-]DEL) CAUSING JAPANESE-TYPE ACATALASEMIA
SO BLOOD CELLS MOLECULES AND DISEASES, (15 DEC 1995) Vol. 21, No. 23, pp. 232-234.
ISSN: 1079-9796.
AU HIRONO A (Reprint); SASAYAHAMADA F; KANNO H; FUJII H; YOSHIDA T; MIWA S
AN 96:133604 SCISEARCH

L61 ANSWER 56 OF 154 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI
TI Strategy of the artificial evolution of an enzyme; Bacillus stearothermophilus **catalase**-I enzyme engineering by random **mutagenesis** using sodium nitrite (conference paper)
SO Ann.N.Y.Acad.Sci.; (1995) 750, 158-67
CODEN: ANYAA9 ISSN: 0077-8923
12th International Enzyme Engineering Conference, Deauville, France, 19-24 September, 1993.
AU Trakulnaleamsai S; Yoshikawa M; Yomo T; *Urabe I
AN 1995-12806 BIOTECHDS

L61 ANSWER 57 OF 154 HCAPLUS COPYRIGHT 2003 ACS
TI Molecular basis of drug-resistance in mycobacteria
SO Postepy Mikrobiologii (1995), 34(2), 143-66
CODEN: PMKMAV; ISSN: 0079-4252
AU Golanska, Ewa; Borun, Marta; Dziadek, Jaroslaw
AN 1996:255397 HCAPLUS
DN 124:308609

L61 ANSWER 58 OF 154 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI Association of two point **mutations** in the **catalase** -peroxidase (katG) **gene** of Mycobacterium tuberculosis (Mb) with isoniazid (INH) resistance.
SO Abstracts of the General Meeting of the American Society for Microbiology, (1995) Vol. 95, No. 0, pp. 124.
Meeting Info.: 95th General Meeting of the American Society for Microbiology Washington, D.C., USA May 21-25, 1995
ISSN: 1060-2011.
AU Uhl, J. R. (1); Kline, B.; Abukhader, L.; Zhang, Y.; Williams, D.; Roberts, G.; Stockman, L.; Cockerill, F., III
AN 1995:290040 BIOSIS

L61 ANSWER 59 OF 154 SCISEARCH COPYRIGHT 2003 ISI (R)
TI CERTAIN PROPERTIES OF ISONIAZID INHIBITION OF MYCOLIC ACID SYNTHESIS IN CELL-FREE SYSTEMS OF M-AURUM AND MYCOBACTERIUM-AVIUM
SO BIOCHIMICA ET BIOPHYSICA ACTA-LIPIDS AND LIPID METABOLISM, (03 JAN 1995) Vol. 1254, No. 1, pp. 98-104.
ISSN: 0005-2760.
AU QUEMARD A; MAZERES S; SUT A; LANEELLE G; LACAVE C (Reprint)
AN 95:52792 SCISEARCH

L61 ANSWER 60 OF 154 MEDLINE DUPLICATE 38
TI Targeted and random mutagenesis of the Campylobacter coli chromosome with integrational plasmid vectors.
SO CURRENT MICROBIOLOGY, (1995 Aug) 31 (2) 92-6.
Journal code: 7808448. ISSN: 0343-8651.
AU Dickinson J H; Grant K A; Park S F
AN 95329967 MEDLINE

L61 ANSWER 61 OF 154 MEDLINE DUPLICATE 39
TI Complete amino acid **sequence** of Proteus mirabilis PR **catalase**. Occurrence of a methionine sulfone in the close proximity of the active site.
SO JOURNAL OF PROTEIN CHEMISTRY, (1995 Feb) 14 (2) 59-72.
Journal code: 8217321. ISSN: 0277-8033.
AU Buzy A; Bracchi V; Sterjiades R; Chroboczek J; Thibault P; Gagnon J; Jouve H M; Hudry-Clergeon G
AN 95305957 MEDLINE

L61 ANSWER 62 OF 154 MEDLINE DUPLICATE 40
TI Absence of **mutations** in the Mn superoxide dismutase or **catalase genes** in familial amyotrophic lateral sclerosis.
SO NEUROMUSCULAR DISORDERS, (1995 Jan) 5 (1) 7-10.
Journal code: 9111470. ISSN: 0960-8966.
AU Parboosingh J S; Rouleau G A; Meninger V; McKenna-Yasek D; Brown R H Jr; Figlewicz D A
AN 95235331 MEDLINE

L61 ANSWER 63 OF 154 HCAPLUS COPYRIGHT 2003 ACS DUPLICATE 41
TI Recombinant preparation of oxidase without the contamination of catalase
SO Jpn. Kokai Tokkyo Koho, 15 pp.
CODEN: JKXXAF
IN Nakagawa, Satoshi; Ishino, Shuichi; Teshiba, Sadao
AN 1995:248717 HCAPLUS
DN 122:26758

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	JP 06245762	A2	19940906	JP 1993-36424	19930225

L61 ANSWER 64 OF 154 MEDLINE DUPLICATE 42
TI Characterization and virulence analysis of **catalase mutants** of Haemophilus influenzae.
SO INFECTION AND IMMUNITY, (1994 Nov) 62 (11) 4855-60.
Journal code: 0246127. ISSN: 0019-9567.
AU Bishai W R; Howard N S; Winkelstein J A; Smith H O
AN 95012698 MEDLINE

L61 ANSWER 65 OF 154 MEDLINE DUPLICATE 43
TI **Mutations** in the **catalase**-peroxidase **gene** from isoniazid-resistant Mycobacterium tuberculosis isolates.
SO JOURNAL OF INFECTIOUS DISEASES, (1994 May) 169 (5) 1162-5.
Journal code: 0413675. ISSN: 0022-1899.
AU Altamirano M; Marostenmaki J; Wong A; FitzGerald M; Black W A; Smith J A
AN 94223086 MEDLINE

L61 ANSWER 66 OF 154 HCAPLUS COPYRIGHT 2003 ACS
TI Isolation and characterization of a hydrogen peroxide resistant mutant of Bacillus subtilis
SO Microbiology (Reading, United Kingdom) (1994), 140(2), 297-304
CODEN: MROBEO; ISSN: 1350-0872
AU Hartford, Orla M.; Dowds, Barbara C. A.
AN 1994:212360 HCAPLUS
DN 120:212360

L61 ANSWER 67 OF 154 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI The association of point **mutations** on the **catalase** (katG) **gene** of M. tuberculosis with isoniazid (INH) resistance.
SO Abstracts of the General Meeting of the American Society for Microbiology, (1994) Vol. 94, No. 0, pp. 195.
Meeting Info.: 94th General Meeting of the American Society for Microbiology Las Vegas, Nevada, USA May 23-27, 1994
ISSN: 1060-2011.
AU Uhl, J. (1); Kline, B.; Zhang, Y.; Stockman, L.; Roberts, G.; Cockerill, F., III
AN 1994:331158 BIOSIS

L61 ANSWER 68 OF 154 HCAPLUS COPYRIGHT 2003 ACS
TI Non wild type enzyme protein produced by random mutation of DNA. Development of novel light-responsive enzyme
SO Sagawa Sentan Kagaku Gijutsu Shinko Zaidan Josei Kenkyu Hokokusho (1994), 7th, 47-57
CODEN: SSKHFS; ISSN: 0919-0414
AU Hamada, Taisuke; Mizuno, Kyosuke; Sagawa, Takashi
AN 1995:905259 HCAPLUS
DN 124:3532

L61 ANSWER 69 OF 154 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI Missense **mutations** in the **catalase** peroxidase **gene** kat G, are associated with isoniazid resistance in M. tuberculosis.
SO Abstracts of the Interscience Conference on Antimicrobial Agents and Chemotherapy, (1994) Vol. 34, No. 0, pp. 8.
Meeting Info.: 34th Interscience Conference on Antimicrobial Agents and Chemotherapy Orlando, Florida, USA October 4-7, 1994
AU Heym, B.; Alzari, P.; Cole, S.
AN 1995:10469 BIOSIS

L61 ANSWER 70 OF 154 HCAPLUS COPYRIGHT 2003 ACS
TI Characterization of katE and its product, **catalase** HPII, from Escherichia coli by **sequence** analysis and site-directed **mutagenesis**
SO (1993) 181 pp. Avail.: NLC, Order No. DANN86063
From: Diss. Abstr. Int. B, 1994, 55(3), 738
AU von Ossowski, Ingemar Eric
AN 1995:375994 HCAPLUS
DN 122:155113

L61 ANSWER 71 OF 154 MEDLINE DUPLICATE 44
TI Aging and resistance to oxidative damage in Caenorhabditis elegans.
SO PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA, (1993 Oct 1) 90 (19) 8905-9.
Journal code: 7505876. ISSN: 0027-8424.
AU Larsen P L
AN 94022283 MEDLINE

L61 ANSWER 72 OF 154 HCAPLUS COPYRIGHT 2003 ACS
TI Decrease in catalase activity and loss of the 11p chromosome arm in the course of SV40 transformation of human fibroblasts

SO Carcinogenesis (1993), 14(8), 1569-72
CODEN: CRNGDP; ISSN: 0143-3334
AU Hoffschir, F.; Vuillaume, M.; Sabatier, L.; Ricoul, M.; Daya-Grosjean, L.; Estrade, S.; Cassingena, R.; Calvayrac, R.; Sarasin, A.; Dutrillaux, B.
AN 1993:667748 HCAPLUS
DN 119:267748

L61 ANSWER 73 OF 154 HCAPLUS COPYRIGHT 2003 ACS
TI Detecting frame shifts by amino acid sequence comparison
SO Journal of Molecular Biology (1993), 234(4), 1140-57
CODEN: JMOBAK; ISSN: 0022-2836
AU Claverie, Jean Michel
AN 1994:155001 HCAPLUS
DN 120:155001

L61 ANSWER 74 OF 154 HCAPLUS COPYRIGHT 2003 ACS
TI Molecular characterization and rescue of acatalasemic mutants of Drosophila melanogaster
SO Genetics (1993), 134(3), 781-8
CODEN: GENTAE; ISSN: 0016-6731
AU Griswold, Charles M.; Matthews, Anita L.; Bewley, Kathleen E.; Mahaffey, James W.
AN 1993:491709 HCAPLUS
DN 119:91709

L61 ANSWER 75 OF 154 SCISEARCH COPYRIGHT 2003 ISI (R) DUPLICATE 45
TI CURRENT THERAPY OF MYCOBACTERIAL INFECTIONS
SO CURRENT OPINION IN INFECTIOUS DISEASES, (DEC 1993) Vol. 6, No. 6, pp. 758-763.
ISSN: 0951-7375.
AU WALLACE R J (Reprint)
AN 93:734303 SCISEARCH

L61 ANSWER 76 OF 154 MEDLINE DUPLICATE 46
TI Antigenic role of stress-induced catalase of Salmonella typhimurium in cell-mediated immunity.
SO INFECTION AND IMMUNITY, (1992 May) 60 (5) 1820-5.
Journal code: 0246127. ISSN: 0019-9567.
AU Kagaya K; Miyakawa Y; Watanabe K; Fukazawa Y
AN 92225594 MEDLINE

L61 ANSWER 77 OF 154 MEDLINE DUPLICATE 47
TI The **catalase**-peroxidase **gene** and isoniazid resistance of Mycobacterium tuberculosis.
SO NATURE, (1992 Aug 13) 358 (6387) 591-3.
Journal code: 0410462. ISSN: 0028-0836.
AU Zhang Y; Heym B; Allen B; Young D; Cole S
AN 92365822 MEDLINE

L61 ANSWER 78 OF 154 MEDLINE DUPLICATE 48
TI **Catalase** negative **mutants** of Helicobacter pylori.
SO EUROPEAN JOURNAL OF CLINICAL MICROBIOLOGY AND INFECTIOUS DISEASES, (1992 Jun) 11 (6) 522-6.
Journal code: 8804297. ISSN: 0934-9723.
AU Westblom T U; Phadnis S; Langenberg W; Yoneda K; Madan E; Midkiff B R
AN 92405676 MEDLINE

L61 ANSWER 79 OF 154 MEDLINE DUPLICATE 49
TI Detection of a common **mutation** of the **catalase** **gene** in Japanese acatalasemic patients.
SO HUMAN GENETICS, (1992 Mar) 88 (5) 487-90.
Journal code: 7613873. ISSN: 0340-6717.
AU Kishimoto Y; Murakami Y; Hayashi K; Takahara S; Sugimura T; Sekiya T
AN 92201799 MEDLINE

L61 ANSWER 80 OF 154 SCISEARCH COPYRIGHT 2003 ISI (R) DUPLICATE 50
TI PROMENADE IN THE **SEQUENCE** SPACE OF BACTERIAL **CATALASE** BY RANDOM **MUTAGENESIS**
SO ANNALS OF THE NEW YORK ACADEMY OF SCIENCES, (30 NOV 1992) Vol. 672, pp. 103-105.
ISSN: 0077-8923.
AU YOMO T; TRAKULNALEAMSAI S; URABE I (Reprint)
AN 93:79265 SCISEARCH

L61 ANSWER 81 OF 154 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI
TI Promenade in the **sequence** space of bacterial **catalase** by random **mutagenesis**;
Bacillus stearothermophilus enzyme engineering (conference paper)
SO Ann.N.Y.Acad.Sci.; (1992) 672, 103-05
CODEN: ANYAA9
AU Yomo T; Trakulnaleamsai S; *Urabe I
AN 1993-02923 BIOTECHDS

L61 ANSWER 82 OF 154 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI PEROXISOME BIOGENESIS IN SACCHAROMYCES-CEREVISIAE.
SO ANTONIE LEEUWENHOEK, (1992) 62 (1-2), 63-78.
CODEN: ALJMAO. ISSN: 0003-6072.
AU KUNAU W-H; HARTIG A
AN 1992:474136 BIOSIS

L61 ANSWER 83 OF 154 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI
TI DNA fragment promoting external gene expression;
obtained by site-directed **mutagenesis** of castorbean **catalase gene** fragment; application in vector e.g. plasmid pIG221 construction for improved gene expression in plant; DNA sequence
AN 1991-09685 BIOTECHDS
PI JP 03103182 30 Apr 1991

L61 ANSWER 84 OF 154 MEDLINE DUPLICATE 51
TI Heat shock factor-independent heat control of transcription of the CTT1 **gene** encoding the cytosolic **catalase** T of Saccharomyces cerevisiae.
SO JOURNAL OF BIOLOGICAL CHEMISTRY, (1991 Jul 5) 266 (19) 12406-11.
Journal code: 2985121R. ISSN: 0021-9258.
AU Wieser R; Adam G; Wagner A; Schuller C; Marchler G; Ruis H; Krawiec Z; Bilinski T
AN 91286263 MEDLINE

L61 ANSWER 85 OF 154 SCISEARCH COPYRIGHT 2003 ISI (R)
TI HEAT-SHOCK FACTOR-INDEPENDENT HEAT CONTROL OF TRANSCRIPTION OF THE CTT1 **GENE** ENCODING THE CYTOSOLIC **CATALASE**-T OF SACCHAROMYCES-CEREVISIAE
SO JOURNAL OF BIOLOGICAL CHEMISTRY, (1991) Vol. 266, No. 19, pp. 12406-12411.
AU WIESER R; ADAM G; WAGNER A; SCHULLER C; MARCHLER G; RUIS H (Reprint); KRAWIEC Z; BILINSKI T
AN 91:380031 SCISEARCH

L61 ANSWER 86 OF 154 MEDLINE DUPLICATE 52
TI Expression of **catalase** and myeloperoxidase **genes** in hydrogen peroxide-resistant HL-60 cells.
SO DNA AND CELL BIOLOGY, (1991 Dec) 10 (10) 735-42.
Journal code: 9004522. ISSN: 1044-5498.
AU Yamada M; Hashinaka K; Inazawa J; Abe T
AN 92075164 MEDLINE

L61 ANSWER 87 OF 154 HCAPLUS COPYRIGHT 2003 ACS
TI The CAT-2 null phenotype in maize is likely due to a DNA insertion into

the Cat2 gene
SO Theoretical and Applied Genetics (1991), 81(5), 635-40
CODEN: THAGA6; ISSN: 0040-5752
AU Abler, M. L.; Scandalios, J. G.
AN 1991:672027 HCAPLUS
DN 115:272027

L61 ANSWER 88 OF 154 SCISEARCH COPYRIGHT 2003 ISI (R) DUPLICATE 53
TI IDENTIFICATION OF NEW **GENES** INVOLVED IN CATABOLITE REPRESSION OF ALCOHOL OXIDASE AND **CATALASE** SYNTHESIS IN METHYLOTROPHIC YEAST PICHIA-PINUS
SO GENETIKA, (1991) Vol. 27, No. 4, pp. 625-635.
AU TITORENKO V I (Reprint); KHODURSKY A B; TESLYAR G E; SIBIRNY A A
AN 91:267199 SCISEARCH

L61 ANSWER 89 OF 154 HCAPLUS COPYRIGHT 2003 ACS
TI Photoregulation of the cat2 and cat3 **catalase genes** in pigmented and pigment-deficient maize: the circadian regulation of cat3 is superimposed on its quasi-constitutive expression in maize leaves
SO Genetics (1991), 127(3), 601-7
CODEN: GENTAE; ISSN: 0016-6731
AU Acevedo, Alberto; Williamson, John D.; Scandalios, John G.
AN 1991:203625 HCAPLUS
DN 114:203625

L61 ANSWER 90 OF 154 HCAPLUS COPYRIGHT 2003 ACS
TI Structure, function and regulation of the **genes** of peroxisomal enzymes-.beta.-oxidation enzymes and **catalase**
SO Cell (Tokyo, Japan) (1991), 23(9), 338-44
CODEN: SAIBD8; ISSN: 0386-4766
AU Osumi, Takashi
AN 1992:52367 HCAPLUS
DN 116:52367

L61 ANSWER 91 OF 154 HCAPLUS COPYRIGHT 2003 ACS
TI Acatalasemia
SO Human Genetics (1991), 86(4), 331-40
CODEN: HUGEDQ; ISSN: 0340-6717
AU Ogata, Masana
AN 1991:532813 HCAPLUS
DN 115:132813

L61 ANSWER 92 OF 154 HCAPLUS COPYRIGHT 2003 ACS
TI Oxidative stress effects on conjugational recombination and **mutation** in **catalase**-deficient Escherichia coli
SO Mutation Research (1991), 255(2), 193-200
CODEN: MUREAV; ISSN: 0027-5107
AU DeRose, Carmella M.; Claycamp, H. Gregg
AN 1991:603079 HCAPLUS
DN 115:203079

L61 ANSWER 93 OF 154 LIFESCI COPYRIGHT 2003 CSA DUPLICATE 54
TI No **mutation** of the **catalase gene** in cancer patients.
SO PROC. JAPAN ACAD., SER. B., (1991) vol. 67, no. 2, pp. 7-10.
AU Kishimoto, Y.; Murakami, Y.; Hayashi, K.; Takahara, S.; Sugimura, T.; Sekiya, T.
AN 91:53224 LIFESCI

L61 ANSWER 94 OF 154 SCISEARCH COPYRIGHT 2003 ISI (R)
TI NO **MUTATION** OF THE **CATALASE GENE** IN CANCER-PATIENTS
SO PROCEEDINGS OF THE JAPAN ACADEMY SERIES B-PHYSICAL AND BIOLOGICAL SCIENCES, (1991) Vol. 67, No. 2, pp. 7-10.

AU KISHIMOTO Y (Reprint); MURAKAMI Y; HAYASHI K; TAKAHARA S; SUGIMURA T; SEKIYA T
AN 91:179502 SCISEARCH

L61 ANSWER 95 OF 154 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI
TI Mutant strain of methylotroph organism; Hansenula polymorpha, Pichia pastoris, Pichia methylotrophica or Candida boidinii used for recombinant protein production; methanol-oxidase-deficient mutant isolation; gene cloning
AN 1990-11081 BIOTECHDS
PI EP 374282 27 Jun 1990

L61 ANSWER 96 OF 154 MEDLINE DUPLICATE 55
TI Nucleotide and deduced amino acid **sequences** of mouse **catalase**: molecular analysis of a low activity **mutant**.
SO NUCLEIC ACIDS RESEARCH, (1990 Aug 25) 18 (16) 4941.
Journal code: 0411011. ISSN: 0305-1048.
AU Shaffer J B; Preston K E; Shepard B A
AN 90370504 MEDLINE

L61 ANSWER 97 OF 154 HCAPLUS COPYRIGHT 2003 ACS
TI Murine and human b locus pigmentation **genes** encode a glycoprotein (gp75) with **catalase** activity
SO Proceedings of the National Academy of Sciences of the United States of America (1990), 87(12), 4809-13
CODEN: PNASA6; ISSN: 0027-8424
AU Halaban, Ruth; Moellmann, Gisela
AN 1990:453589 HCAPLUS
DN 113:53589

L61 ANSWER 98 OF 154 MEDLINE DUPLICATE 56
TI Molecular analysis of an acatalasemic mouse mutant.
SO BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS, (1990 Dec 31) 173 (3) 1043-50.
Journal code: 0372516. ISSN: 0006-291X.
AU Shaffer J B; Preston K E
AN 91097527 MEDLINE

L61 ANSWER 99 OF 154 HCAPLUS COPYRIGHT 2003 ACS
TI Molecular characterization of a catalase null allele at the Cat3 locus in maize
SO Genetics (1990), 125(4), 867-72
CODEN: GENTAE; ISSN: 0016-6731
AU Wadsworth, Gregory J.; Scandalios, John G.
AN 1990:566609 HCAPLUS
DN 113:166609

L61 ANSWER 100 OF 154 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. DUPLICATE 57
TI EXPRESSION OF THE **CATALASE** AND SUPEROXIDE DISMUTASE **GENES** IN MATURE POLLEN IN MAIZE.
SO THEOR APPL GENET, (1990) 80 (5), 705-711.
CODEN: THAGA6. ISSN: 0040-5752.
AU ACEVEDO A; SCANDALIOS J G
AN 1991:70238 BIOSIS

L61 ANSWER 101 OF 154 HCAPLUS COPYRIGHT 2003 ACS
TI Contribution of superoxide dismutase and catalase activities to Shigella flexneri pathogenesis
SO Infection and Immunity (1990), 58(2), 529-35
CODEN: INFIBR; ISSN: 0019-9567
AU Franzon, Vicki L.; Arondel, Josette; Sansonetti, Philippe J.
AN 1990:196491 HCAPLUS
DN 112:196491

L61 ANSWER 102 OF 154 MEDLINE DUPLICATE 58
TI Molecular analysis of human acatalasemia. Identification of a splicing mutation.
SO JOURNAL OF MOLECULAR BIOLOGY, (1990 Jan 20) 211 (2) 383-93.
Journal code: 2985088R. ISSN: 0022-2836.
AU Wen J K; Osumi T; Hashimoto T; Ogata M
AN 90172408 MEDLINE

L61 ANSWER 103 OF 154 HCAPLUS COPYRIGHT 2003 ACS
TI A single gel for determining genetic **variants** of equine erythrocyte carbonic anhydrase (CA) and **catalase** (Cat)
SO Animal Genetics (1990), 21(2), 191-7
CODEN: ANGEE3; ISSN: 0268-9146
AU Bowling, A. T.; Gordon, L.; Penedo, M. C. T.; Wictum, E.; Beebout, J.
AN 1991:224963 HCAPLUS
DN 114:224963

L61 ANSWER 104 OF 154 MEDLINE DUPLICATE 59
TI **Mutagenesis** in Escherichia coli lacking **catalase**.
SO ENVIRONMENTAL AND MOLECULAR MUTAGENESIS, (1990) 15 (4) 184-9.
Journal code: 8800109. ISSN: 0893-6692.
AU Abril N; Pueyo C
AN 90292022 MEDLINE

L61 ANSWER 105 OF 154 HCAPLUS COPYRIGHT 2003 ACS
TI Genetic and molecular analysis of antioxidant enzymes in Drosophila melanogaster: a correlation between **catalase** activity levels, life span, and spontaneous **mutation** rate
SO UCLA Symposia on Molecular and Cellular Biology, New Series (1990), 123(Mol. Biol. Aging), 157-70
CODEN: USMBD6; ISSN: 0735-9543
AU Mackay, William J.; Orr, William C.; Bewley, Glenn C.
AN 1991:182441 HCAPLUS
DN 114:182441

L61 ANSWER 106 OF 154 MEDLINE DUPLICATE 60
TI Temporal expression of genes encoding free radical-metabolizing enzymes is associated with higher mRNA levels during in utero development in mice.
SO DEVELOPMENTAL GENETICS, (1990) 11 (2) 149-59.
Journal code: 7909963. ISSN: 0192-253X.
AU el-Hage S; Singh S M
AN 90336158 MEDLINE

L61 ANSWER 107 OF 154 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI MECHANISMS OF PROTECTION TO REACTIVE OXYGEN SPECIES BY BACILLUS-SUBTILIS.
SO SYMPOSIUM ON IONIZING RADIATION DAMAGE TO DNA: MOLECULAR ASPECTS HELD AT THE 19TH ANNUAL UCLA (UNIVERSITY OF CALIFORNIA-LOS ANGELES) SYMPOSIA ON MOLECULAR AND CELLULAR BIOLOGY, LAKE TAHOE, CALIFORNIA, USA, JANUARY 16-21, 1990. J CELL BIOCHEM SUPPL. (1990) 0 (14 PART A), 57.
CODEN: JCBSD7.
AU BOL D; YASBIN R
AN 1990:483986 BIOSIS

L61 ANSWER 108 OF 154 MEDLINE DUPLICATE 61
TI Induction of the SOS response by hydrogen peroxide in various Escherichia coli mutants with altered protection against oxidative DNA damage.
SO JOURNAL OF BACTERIOLOGY, (1989 Nov) 171 (11) 6141-7.
Journal code: 2985120R. ISSN: 0021-9193.
AU Goerlich O; Quillardet P; Hofnung M
AN 90036702 MEDLINE

L61 ANSWER 109 OF 154 HCAPLUS COPYRIGHT 2003 ACS
TI Identification and characterization of catA, a **mutation** causing

catalase deficiency in Dictyostelium discoideum
SO Journal of Bacteriology (1989), 171(3), 1492-5
CODEN: JOBAAY; ISSN: 0021-9193
AU Madigan, Sanford J.; Katz, Eugene R.
AN 1989:189196 HCAPLUS
DN 110:189196

L61 ANSWER 110 OF 154 HCAPLUS COPYRIGHT 2003 ACS
TI Enhanced-peroxidatic activity in specific catalase isozymes of tobacco, barley, and maize
SO Plant Physiology (1989), 91(3), 812-15
CODEN: PLPHAY; ISSN: 0032-0889
AU Havir, Evelyn A.; McHale, Neil A.
AN 1990:73937 HCAPLUS
DN 112:73937

L61 ANSWER 111 OF 154 MEDLINE DUPLICATE 62
TI The genetics of **catalase** in Drosophila melanogaster: isolation and characterization of acatalasemic **mutants**.
SO GENETICS, (1989 Jul) 122 (3) 643-52.
Journal code: 0374636. ISSN: 0016-6731.
AU Mackay W J; Bewley G C
AN 89339148 MEDLINE

L61 ANSWER 112 OF 154 MEDLINE DUPLICATE 63
TI Functional complementation of catalase-defective peroxisomes in a methylotrophic yeast by import of the catalase A from Saccharomyces cerevisiae.
SO EUROPEAN JOURNAL OF BIOCHEMISTRY, (1989 Sep 1) 184 (1) 173-9.
Journal code: 0107600. ISSN: 0014-2956.
AU Hansen H; Roggenkamp R
AN 89377853 MEDLINE

L61 ANSWER 113 OF 154 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI NEW TYPES OF **CATALASE** REGULATORY **MUTANTS** IN YEAST.
SO BULL POL ACAD SCI BIOL, (1987 (1988)) 35 (10-12), 285-292.
CODEN: BPABEN. ISSN: 0239-751X.
AU KRAWIEC Z; BILINSKI T
AN 1988:460860 BIOSIS

L61 ANSWER 114 OF 154 MEDLINE DUPLICATE 64
TI Diminished synthesis of catalase due to the decrease in catalase mRNA in Japanese-type acatalasemia.
SO PHYSIOLOGICAL CHEMISTRY AND PHYSICS AND MEDICAL NMR, (1988) 20 (3) 171-6.
Journal code: 8502230. ISSN: 0748-6642.
AU Wen J K; Osumi T; Hashimoto T; Ogata M
AN 89221299 MEDLINE

L61 ANSWER 115 OF 154 MEDLINE DUPLICATE 65
TI Molecular defect in human acatalasia fibroblasts.
SO BIOCHEMICAL AND BIOPHYSICAL RESEARCH COMMUNICATIONS, (1988 May 31) 153 (1) 59-66.
Journal code: 0372516. ISSN: 0006-291X.
AU Crawford D R; Mirault M E; Moret R; Zbinden I; Cerutti P A
AN 88240448 MEDLINE

L61 ANSWER 116 OF 154 WPIDS (C) 2003 THOMSON DERWENT
TI Prepn. of **catalase**-free oxidase enzyme - comprises aerobic cultivation of **catalase**-negative yeast **mutant** with cpd. inducing expression of oxidase **gene** without being substrate for it.
PI EP 244920 A 19871111 (198745)* EN 18p
R: AT BE CH DE ES FR GB GR IT LI NL SE
WO 8707639 A 19871217 (198751) EN

W: JP US
NL 8601454 A 19880104 (198805)
JP 01500241 W 19890202 (198911)
EP 244920 B 19911211 (199150)
R: AT BE CH DE ES FR GB GR IT LI NL SE
DE 3775108 G 19920123 (199205)
JP 05088107 B 19931221 (199402) 11p C12N009-04
IN GIUESEPPI, M L F; VANDIJKEN, J P; VANEIJK, H M

L61 ANSWER 117 OF 154 MEDLINE DUPLICATE 66
TI Isolation of a cDNA clone for murine **catalase** and analysis of an acatalasemic **mutant**.
SO JOURNAL OF BIOLOGICAL CHEMISTRY, (1987 Sep 25) 262 (27) 12908-11.
Journal code: 2985121R. ISSN: 0021-9258.
AU Shaffer J B; Sutton R B; Bewley G C
AN 88007481 MEDLINE

L61 ANSWER 118 OF 154 HCAPLUS COPYRIGHT 2003 ACS
TI Genetic mapping of katA, a locus that affects catalase 1 levels in Bacillus subtilis
SO Journal of Bacteriology (1987), 169(12), 5848-51
CODEN: JOBAAY; ISSN: 0021-9193
AU Loewen, Peter C.; Switala, Jacek
AN 1988:32797 HCAPLUS
DN 108:32797

L61 ANSWER 119 OF 154 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI MUTATIONS IN ESCHERICHIA-COLI THAT EFFECT SENSITIVITY TO OXYGEN.
SO J BACTERIOL, (1987) 169 (11), 5087-5094.
CODEN: JOBAAY. ISSN: 0021-9193.
AU JAMISON C S; ADLER H I
AN 1988:49475 BIOSIS

L61 ANSWER 120 OF 154 HCAPLUS COPYRIGHT 2003 ACS
TI New types of **catalase** regulatory **mutants** in yeast
SO Bulletin of the Polish Academy of Sciences: Biological Sciences (1987), 35(10-12), 285-91
CODEN: BPABEN; ISSN: 0239-751X
AU Krawiec, Zdzislawa; Bilinski, Tomasz
AN 1988:626510 HCAPLUS
DN 109:226510

L61 ANSWER 121 OF 154 MEDLINE DUPLICATE 67
TI Temporal variation for the expression of catalase in Drosophila melanogaster: correlations between rates of enzyme synthesis and levels of translatable catalase-messenger RNA.
SO GENETICS, (1986 Aug) 113 (4) 919-38.
Journal code: 0374636. ISSN: 0016-6731.
AU Bewley G C; Mackay W J; Cook J L
AN 86301836 MEDLINE

L61 ANSWER 122 OF 154 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI **CATALASE** T DEFICIENT **MUTANTS** OF SACCHAROMYCES-CEREVISIAE.
SO ACTA MICROBIOL POL, (1985 (1986) (RECD 1987)) 34 (3-4), 231-242.
CODEN: AMPOAX. ISSN: 0001-6195.
AU TRACZYK A; BILINSKI T; LITWINSKA J; SKONECZNY M; RYTKA J
AN 1987:188972 BIOSIS

L61 ANSWER 123 OF 154 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI MECHANISMS DETERMINING AEROBIC OR ANAEROBIC GROWTH IN THE FACULTATIVE ANAEROBE SALMONELLA-TYPHIMURIUM.
SO PROC NATL ACAD SCI U S A, (1985) 82 (7), 2077-2081.
CODEN: PNASA6. ISSN: 0027-8424.

AU YAMAMOTO N; DROFFNER M L
AN 1985:355398 BIOSIS

L61 ANSWER 124 OF 154 HCAPLUS COPYRIGHT 2003 ACS
TI Genetic mapping of katG, a locus that affects synthesis of the bifunctional catalase-peroxidase hydroperoxidase I in Escherichia coli
SO Journal of Bacteriology (1985), 162(2), 661-7
CODEN: JOBAAY; ISSN: 0021-9193
AU Loewen, Peter C.; Triggs, Barbara L.; George, Carolyn S.; Hrabarchuk, Blair E.
AN 1985:432818 HCAPLUS
DN 103:32818

L61 ANSWER 125 OF 154 MEDLINE DUPLICATE 68
TI Establishment of mouse cell lines homozygous for temperature-sensitive **mutation** in **catalase gene**.
SO SOMATIC CELL AND MOLECULAR GENETICS, (1985 Jul) 11 (4) 319-24.
Journal code: 8403568. ISSN: 0740-7750.
AU Lewis W H
AN 85272812 MEDLINE

L61 ANSWER 126 OF 154 MEDLINE
TI **Catalase** T deficient **mutants** of Saccharomyces cerevisiae.
SO ACTA MICROBIOLOGICA POLONICA, (1985) 34 (3-4) 231-41.
Journal code: 7610362. ISSN: 0137-1320.
AU Traczyk A; Bilinski T; Litwinska J; Skoneczny M; Rytka J
AN 86183116 MEDLINE

L61 ANSWER 127 OF 154 MEDLINE DUPLICATE 69
TI Isolation of the **catalase** A **gene** of Saccharomyces cerevisiae by complementation of the cta1 **mutation**.
SO MOLECULAR AND GENERAL GENETICS, (1985) 200 (1) 74-9.
Journal code: 0125036. ISSN: 0026-8925.
AU Cohen G; Fessl F; Traczyk A; Rytka J; Ruis H
AN 85295502 MEDLINE

L61 ANSWER 128 OF 154 SCISEARCH COPYRIGHT 2003 ISI (R)
TI ISOLATION OF THE **CATALASE**-A **GENE** OF SACCHAROMYCES-CEREVISIAE BY COMPLEMENTATION OF THE CTA1 **MUTATION**
SO MOLECULAR & GENERAL GENETICS, (1985) Vol. 200, No. 1, pp. 74-79.
AU COHEN G; FESSL F; TRACZYK A; RYTKA J; RUIS H (Reprint)
AN 85:374041 SCISEARCH

L61 ANSWER 129 OF 154 HCAPLUS COPYRIGHT 2003 ACS
TI Genetic mapping of katF, a locus that with katE affects the synthesis of a second catalase species in Escherichia coli
SO Journal of Bacteriology (1984), 160(2), 668-75
CODEN: JOBAAY; ISSN: 0021-9193
AU Loewen, Peter C.; Triggs, Barbara L.
AN 1985:21026 HCAPLUS
DN 102:21026

L61 ANSWER 130 OF 154 HCAPLUS COPYRIGHT 2003 ACS
TI Isolation of **catalase**-deficient Escherichia coli **mutants** and genetic mapping of katE, a locus that affects **catalase** activity
SO Journal of Bacteriology (1984), 157(2), 622-6
CODEN: JOBAAY; ISSN: 0021-9193
AU Loewen, Peter C.
AN 1984:135653 HCAPLUS
DN 100:135653

L61 ANSWER 131 OF 154 EMBASE COPYRIGHT 2003 ELSEVIER SCI. B.V.

TI Expression of the developmentally regulated **catalase** (Cat) **genes** in maize.
SO Developmental Genetics, (1984) 4/4 (281-293).
CODEN: DGNTDW
AU Scandalios J.G.; Tsaftaris A.S.; Chandlee J.M.; Skadsen R.W.
AN 84164567 EMBASE

L61 ANSWER 132 OF 154 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI GENETICALLY DETERMINED CONIDIAL LONGEVITY IS POSITIVELY CORRELATED WITH SUPER OXIDE DIS **MUTASE CATALASE** GLUTATHIONE PEROXIDASE CYTOCHROME C PEROXIDASE AND ASCORBATE FREE RADICAL REDUCTASE ACTIVITIES IN NEUROSPORA-CRASSA.
SO MECH AGEING DEV, (1984) 24 (1), 83-100.
CODEN: MAGDA3. ISSN: 0047-6374.
AU MUNKRES K D; RANA R S; GOLDSTEIN E
AN 1984:294241 BIOSIS

L61 ANSWER 133 OF 154 HCAPLUS COPYRIGHT 2003 ACS
TI Analysis of **variants** affecting the **catalase** developmental program in maize scutellum
SO Theoretical and Applied Genetics (1984), 69(1), 71-7
CODEN: THAGA6; ISSN: 0040-5752
AU Chandlee, J. M.; Scandalios, J. G.
AN 1985:93106 HCAPLUS
DN 102:93106

L61 ANSWER 134 OF 154 HCAPLUS COPYRIGHT 2003 ACS
TI **Catalase**-negative **mutants** of Escherichia coli
SO Current Microbiology (1984), 11(1), 13-17
CODEN: CUMIDD; ISSN: 0343-8651
AU Meir, Efrat; Yagil, Ezra
AN 1984:587630 HCAPLUS
DN 101:187630

L61 ANSWER 135 OF 154 SCISEARCH COPYRIGHT 2003 ISI (R) DUPLICATE 70
TI CELL-TYPE-SPECIFIC **GENE**-EXPRESSION AND ACATALASEMIC PEROXISOMES IN A NULL CAT2 **CATALASE MUTANT** OF MAIZE
SO PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF THE UNITED STATES OF AMERICA-BIOLOGICAL SCIENCES, (1983) Vol. 80, No. 14, pp. 4455-4459.
AU TSAFTARIS A S; BOSABALIDIS A M; SCANDALIOS J G (Reprint)
AN 83:365722 SCISEARCH

L61 ANSWER 136 OF 154 MEDLINE DUPLICATE 71
TI Isolation of the **catalase** T structural **gene** of Saccharomyces cerevisiae by functional complementation.
SO MOLECULAR AND CELLULAR BIOLOGY, (1983 Sep) 3 (9) 1545-51.
Journal code: 8109087. ISSN: 0270-7306.
AU Spevak W; Fessl F; Rytka J; Traczyk A; Skoneczny M; Ruis H
AN 84039483 MEDLINE

L61 ANSWER 137 OF 154 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI ISOLATION OF GENOMIC DNA SEQUENCES CONTROLLED BY A STEROID IN HORMONE TARGET CELLS OF DROSOPHILA-MELANOGASTER.
SO 1ST EUROPEAN CONGRESS ON CELL BIOLOGY, PARIS, JULY 18-23, 1982. BIOL CELL. (1982) 45 (2), 187.
CODEN: BCELDF. ISSN: 0248-4900.
AU COUDERC J L; BECKER J L; ROPP M; BEST-BELPOMME M; DASTUGUE B; LEPESANT J A
AN 1984:36940 BIOSIS

L61 ANSWER 138 OF 154 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC. DUPLICATE 72
TI CATALASE SYNTHESIS IN ESCHERICHIA-COLI IS NOT CONTROLLED BY CATABOLITE REPRESSION.
SO ARCH BIOCHEM BIOPHYS, (1982) 215 (1), 72-77.

CODEN: ABBIA4. ISSN: 0003-9861.
AU RICHTER H E; LOEWEN P C
AN 1983:186509 BIOSIS

L61 ANSWER 139 OF 154 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
DUPLICATE 73
TI GENETIC AND BIOCHEMICAL CHARACTERIZATION OF A CAT-2 **CATALASE** EC-1.11.1.6 NULL **MUTANT** OF ZEA-MAYS.
SO MOL GEN GENET, (1981) 181 (2), 158-163.
CODEN: MGGEAE. ISSN: 0026-8925.
AU TSAFTARIS A S; SCANDALIOS J G
AN 1981:232107 BIOSIS

L61 ANSWER 140 OF 154 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI CELLULAR LONGEVITY DETERMINANT **GENES** CONTROL SUPER OXIDE DIS **MUTASE CATALASE** GLUTATHIONE PEROXIDASE CYTOCHROME PEROXIDASE AND ASCORBATE FREE RADICAL REDUCTASE IN NEUROSPORA.
SO SYMPOSIUM ON NEUROPEPTIDE AND HORMONE MODULATION OF BRAIN FUNCTION, HOMEOSTASIS, AND BEHAVIOR PRESENTED AT THE 11TH ANNUAL MEETING OF THE AMERICAN AGING ASSOCIATION, INC., NEW YORK, N.Y., USA, SEPT. 24-26, 1981. AGE (OMAHA). (1981 (RECD 1982)) 4 (4), 135.
CODEN: AGEEDB. ISSN: 0161-9152.
AU MUNKRES K D; RANA R S; GOLDSTEIN E; FURTEK C A
AN 1983:21304 BIOSIS

L61 ANSWER 141 OF 154 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI CHARACTERIZATION OF 2 MUTANT STRAINS OF SACCHAROMYCES-CEREVISIAE DEFICIENT IN COPRO PORPHYRINOGEN III OXIDASE EC-1.3.3.3 ACTIVITY.
SO J GEN MICROBIOL, (1981) 122 (1), 79-88.
CODEN: JGMIAN. ISSN: 0022-1287.
AU BILINSKI T; LITWINSKA J; LUKASKIEWICZ J; RYTKA J; SIMON M; LABBE-BOIS R
AN 1981:217727 BIOSIS

L61 ANSWER 142 OF 154 HCAPLUS COPYRIGHT 2003 ACS
TI A regulatory **mutation** in yeast which affects **catalase** T formation and metabolism of carbohydrate reserves
SO Current Genetics (1981), 4(1), 47-50
CODEN: CUGED5; ISSN: 0172-8083
AU Chvojka, A.; Barlas, M.; Ruis, H.; Padrao, G. R. C. B.; Panek, A. D.; Mattoon, J. R.
AN 1981:600426 HCAPLUS
DN 95:200426

L61 ANSWER 143 OF 154 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI THE RECA-PLUS **GENE** PRODUCT IS MORE IMPORTANT THAN **CATALASE** AND SUPER OXIDE DIS **MUTASE** IN PROTECTING ESCHERICHIA-COLI AGAINST HYDROGEN PER OXIDE TOXICITY.
SO J. Bacteriol., (1980) 142 (1), 319-321.
CODEN: JOBAAY. ISSN: 0021-9193.
AU CARLSSON J; CARPENTER V S
AN 1980:91503 BIOSIS

L61 ANSWER 144 OF 154 MEDLINE DUPLICATE 74
TI The peroxidatic and catalatic activity of catalase in normal and acatalasemic mouse liver.
SO BIOCHIMICA ET BIOPHYSICA ACTA, (1980 Dec 15) 633 (3) 317-22.
Journal code: 0217513. ISSN: 0006-3002.
AU Srivastava S K; Ansari N H
AN 81160796 MEDLINE

L61 ANSWER 145 OF 154 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI A CELLULAR LONGEVITY ASSURANCE **GENE** CONTROLS SUPER OXIDE DIS **MUTASE** AND **CATALASE** IN NEUROSPORA-CRASSA.
SO 10TH ANNUAL MEETING ON BRAIN NEUROTRANSMITTERS AND RECEPTORS IN AGING AND

AGE-REALTED DISORDERS, HOUSTON, TEX., USA, OCT. 2-4, 1980. AGE (OMAHA). (1980 (RECD 1981)) 3 (4), 108-109.
CODEN: AGEEDB. ISSN: 0161-9152.
AU MUNKRES K D; RANA R S
AN 1982:7702 BIOSIS

L61 ANSWER 146 OF 154 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
DUPLICATE 75
TI GENETICS OF CATALASE IN DROSOPHILA-MELANOGASTER RATES OF SYNTHESIS AND DEGRADATION OF THE ENZYME IN FLIES ANEU PLOID AND EU PLOID FOR THE STRUCTURAL GENE.
SO GENETICS, (1979) 91 (4), 723-742.
CODEN: GENTAE. ISSN: 0016-6731.
AU LUBINSKY S; BEWLEY G C
AN 1979:264795 BIOSIS

L61 ANSWER 147 OF 154 HCAPLUS COPYRIGHT 2003 ACS
TI Inheritance of catalase multiple forms in Scots pine (Pinus sylvestris) endosperm
SO Arboretum Kornickie (1979), 24, 105-10
CODEN: ARKOA9; ISSN: 0066-5878
AU Szmidt, Alfred E.
AN 1980:177558 HCAPLUS
DN 92:177558

L61 ANSWER 148 OF 154 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI ISOZYMES FROM INDIVIDUAL THALLUS OF PORPHYRA-SPP.
SO JPN J PHYCOL, (1978) 26 (3), 139-143.
CODEN: JJPHDP.
AU MIURA W; FUJIO Y; SUTO S
AN 1980:219740 BIOSIS

L61 ANSWER 149 OF 154 MEDLINE DUPLICATE 76
TI Properties of erythrocyte catalase from homozygotes and heterozygotes for Swiss-type acatalasemia.
SO BIOCHEMICAL GENETICS, (1976 Oct) 14 (9-10) 791-807.
Journal code: 0126611. ISSN: 0006-2928.
AU Aebi H; Wyss S R; Scherz B; Gross J
AN 77087041 MEDLINE

L61 ANSWER 150 OF 154 HCAPLUS COPYRIGHT 2003 ACS
TI Genetic polymorphism with respect to catalase enzyme in diploid and tetraploid maize strains
SO Genetika (Moscow) (1972), 8(6), 13-17
CODEN: GNKAA5; ISSN: 0016-6758
AU Maletskii, S. I.; Polyakova, E. V.; Levites, E. V.; Aksenovich, A. V.
AN 1972:472648 HCAPLUS
DN 77:72648

L61 ANSWER 151 OF 154 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI THE DEVELOPMENTAL CONTROL OF GLYOXYSOMAL LOCALIZATION OF THE **CATALASE VARIANTS** SPECIFIED BY THE CT **GENE** IN MAIZE-M.
SO Genetics, (1970) 64 (2 PART 2), S56.
CODEN: GENTAE. ISSN: 0016-6731.
AU SCANDALIOS J G
AN 1971:15525 BIOSIS

L61 ANSWER 152 OF 154 BIOSIS COPYRIGHT 2003 BIOLOGICAL ABSTRACTS INC.
TI EFFECT OF ENZYME DEFECTS ON THE ERYTHROCYTE METABOLISM USING THE EXAMPLE ACATALASIA.
SO FOLIA HAEMATOL LEIPZIG, (1969) 91 (1), 5-18.
CODEN: FOLHAR.
AU AEBI H

AN 1970:24702 BIOSIS

L61 ANSWER 153 OF 154 HCAPLUS COPYRIGHT 2003 ACS
TI Genetic control of multiple molecular forms of catalase in maize
SO Annals of the New York Academy of Sciences (1968), 151(1), 274-93
CODEN: ANYAA9; ISSN: 0077-8923
AU Scandalios, John G.
AN 1968:503890 HCAPLUS
DN 69:103890

L61 ANSWER 154 OF 154 HCAPLUS COPYRIGHT 2003 ACS
TI Genetic observations on the relation between isoniazid-resistance and catalase activity in Mycobacterium avium
SO Japan. J. Microbiol. (1958), 2, 327-34
AU Tsukamura, Michio
AN 1961:43839 HCAPLUS
DN 55:43839
OREF 55:8543c-d

=> save temp l61 catalase/a
ANSWER SET L61 HAS BEEN SAVED AS 'CATALASE/A'

=> log y

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	221.51	221.72

STN INTERNATIONAL LOGOFF AT 16:01:05 ON 31 MAR 2003

FILE 'HOME' ENTERED AT 10:41:02 ON 01 APR 2003

=> fil .bec

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	0.21	0.21

FILES 'MEDLINE, SCISEARCH, LIFESCI, BIOTECHDS, BIOSIS, EMBASE, HCAPLUS, NTIS, ESBIOBASE, BIOTECHNO, WPIDS' ENTERED AT 10:41:12 ON 01 APR 2003
ALL COPYRIGHTS AND RESTRICTIONS APPLY. SEE HELP USAGETERMS FOR DETAILS.

11 FILES IN THE FILE LIST

=> act catalase/a
L1 (21066) SEA FILE=MEDLINE ABB=ON CATALASE#
L2 (15664) SEA FILE=SCISEARCH ABB=ON CATALASE#
L3 (5302) SEA FILE=LIFESCI ABB=ON CATALASE#
L4 (1111) SEA FILE=BIOTECHDS ABB=ON CATALASE#
L5 (26335) SEA FILE=BIOSIS ABB=ON CATALASE#
L6 (17042) SEA FILE=EMBASE ABB=ON CATALASE#
L7 (37415) SEA FILE=HCAPLUS ABB=ON CATALASE#
L8 (227) SEA FILE=NTIS ABB=ON CATALASE#
L9 (6619) SEA FILE=ESBIOBASE ABB=ON CATALASE#
L10 (5266) SEA FILE=BIOTECHNO ABB=ON CATALASE#
L11 (1392) SEA FILE=WPIDS ABB=ON CATALASE#
L12 (137439) SEA CATALASE#
L13 (456) SEA FILE=MEDLINE ABB=ON L1 (10A) (MUTA? OR VARIANT#)
L14 (402) SEA FILE=SCISEARCH ABB=ON L2 (10A) (MUTA? OR VARIANT#)
L15 (278) SEA FILE=LIFESCI ABB=ON L3 (10A) (MUTA? OR VARIANT#)
L16 (40) SEA FILE=BIOTECHDS ABB=ON L4 (10A) (MUTA? OR VARIANT#)
L17 (1421) SEA FILE=BIOSIS ABB=ON L5 (10A) (MUTA? OR VARIANT#)
L18 (396) SEA FILE=EMBASE ABB=ON L6 (10A) (MUTA? OR VARIANT#)
L19 (739) SEA FILE=HCAPLUS ABB=ON L7 (10A) (MUTA? OR VARIANT#)
L20 (2) SEA FILE=NTIS ABB=ON L8 (10A) (MUTA? OR VARIANT#)

```
L21 (       227)SEA FILE=ESBIOBASE ABB=ON  L9 (10A)(MUTA? OR VARIANT#)
L22 (       280)SEA FILE=BIOTECHNO ABB=ON  L10(10A)(MUTA? OR VARIANT#)
L23 (        22)SEA FILE=WPIDS ABB=ON  L11(10A)(MUTA? OR VARIANT#)
L24 (      4263)SEA L12(10A)(MUTA? OR VARIANT#)
L25 (       685)SEA FILE=MEDLINE ABB=ON  L1 (10A)GENE/Q
L26 (       854)SEA FILE=SCISEARCH ABB=ON  L2 (10A)GENE/Q
L27 (       418)SEA FILE=LIFESCI ABB=ON  L3 (10A)GENE/Q
L28 (        92)SEA FILE=BIOTECHDS ABB=ON  L4 (10A)GENE/Q
L29 (       997)SEA FILE=BIOSIS ABB=ON  L5 (10A)GENE/Q
L30 (       590)SEA FILE=EMBASE ABB=ON  L6 (10A)GENE/Q
L31 (      1229)SEA FILE=HCAPLUS ABB=ON  L7 (10A)GENE/Q
L32 (         4)SEA FILE=NTIS ABB=ON  L8 (10A)GENE/Q
L33 (       422)SEA FILE=ESBIOBASE ABB=ON  L9 (10A)GENE/Q
L34 (       538)SEA FILE=BIOTECHNO ABB=ON  L10(10A)GENE/Q
L35 (        64)SEA FILE=WPIDS ABB=ON  L11(10A)GENE/Q
L36 (      5893)SEA L12(10A) GENE/Q
L37 (       130)SEA FILE=MEDLINE ABB=ON  L13 AND L25
L38 (       127)SEA FILE=SCISEARCH ABB=ON  L14 AND L26
L39 (        91)SEA FILE=LIFESCI ABB=ON  L15 AND L27
L40 (        10)SEA FILE=BIOTECHDS ABB=ON  L16 AND L28
L41 (       156)SEA FILE=BIOSIS ABB=ON  L17 AND L29
L42 (       119)SEA FILE=EMBASE ABB=ON  L18 AND L30
L43 (       192)SEA FILE=HCAPLUS ABB=ON  L19 AND L31
L44 (         0)SEA FILE=NTIS ABB=ON  L20 AND L32
L45 (        83)SEA FILE=ESBIOBASE ABB=ON  L21 AND L33
L46 (        99)SEA FILE=BIOTECHNO ABB=ON  L22 AND L34
L47 (         5)SEA FILE=WPIDS ABB=ON  L23 AND L35
L48 (      1012)SEA L24 AND L36
L49 (        65)SEA FILE=MEDLINE ABB=ON  L37 NOT 1998-2003/PY
L50 (        57)SEA FILE=SCISEARCH ABB=ON  L38 NOT 1998-2003/PY
L51 (        42)SEA FILE=LIFESCI ABB=ON  L39 NOT 1998-2003/PY
L52 (         4)SEA FILE=BIOTECHDS ABB=ON  L40 NOT 1998-2003/PY
L53 (        88)SEA FILE=BIOSIS ABB=ON  L41 NOT 1998-2003/PY
L54 (        61)SEA FILE=EMBASE ABB=ON  L42 NOT 1998-2003/PY
L55 (       104)SEA FILE=HCAPLUS ABB=ON  L43 NOT 1998-2003/PY
L56 (         0)SEA FILE=NTIS ABB=ON  L44 NOT 1998-2003/PY
L57 (        27)SEA FILE=ESBIOBASE ABB=ON  L45 NOT 1998-2003/PY
L58 (        48)SEA FILE=BIOTECHNO ABB=ON  L46 NOT 1998-2003/PY
L59 (         3)SEA FILE=WPIDS ABB=ON  L47 NOT 1998-2003/PY
L60 (       499)SEA L48 NOT 1998-2003/PY
L61          154 DUP REM L60 (345 DUPLICATES REMOVED)

=> d ab 35,36,51,54,56,60,65,70,76,80,81,83,96,103,105,133

L61  ANSWER 35 OF 154     MEDLINE                          DUPLICATE 22
AB   The catalase-peroxidase gene (katG) and a two-
     gene locus (inhA) containing mutations associated with
     resistance to isoniazid in Mycobacterium tuberculosis were sequenced in 34
     resistant and 12 susceptible strains. Virtually all resistant organisms
     had amino acid changes in KatG or nucleotide substitutions upstream of
     inhA. A region of katG encoding two amino acids frequently altered in
     resistant strains (residues Ser315 and Arg463) and the inhA locus were
     sequenced in 10 susceptible and 51 isoniazid-resistant isolates from the
     Netherlands. Most (84%) of the resistant isolates had mutations in katG or
     the inhA locus or lacked katG. Together, approximately 75% of
     isoniazid-resistant isolates had replacements at amino acids 315 or 463 in
     KatG or nucleotide substitutions upstream of inhA. All 16 strains of
     Mycobacterium bovis and Mycobacterium microti studied had Leu463 rather
     than Arg463 in KatG, an observation consistent with the hypothesis that
     Leu463 is the ancestral condition in M. tuberculosis.

L61  ANSWER 36 OF 154  HCAPLUS  COPYRIGHT 2003 ACS
AB   A method for detn. of specific mutations in katG was developed.  The
     protocol is based on an RFLP assay which follows from sequence anal. of
```

S-315 and R-463 mutations. It was found that a mutation at either site reverses the presence or absence of the MspI site and four distinct RFLP patterns were obsd.

L61 ANSWER 51 OF 154 HCAPLUS COPYRIGHT 2003 ACS DUPLICATE 34
AB A landscape in protein sequence space shows the relation between the primary structure and the level of a property of each protein. Methods were developed for observing local landscapes exptl. through catalase I from Bacillus stearothermophilus with respect to its catalytic activity, peroxidatic activity, and thermostability. For these 3 properties, the wild-type enzyme is located near the top of the hill, indicating that the present enzyme is fairly optimized for these properties. A pos. correlation was found between the altitudes of the catalatic and the peroxidatic activities, indicating that the location of the hills and valleys in the landscapes of the 2 activities roughly correspond with each other. In contrast, the thermostability landscape appeared quite differently. Thus, the results show that even from a rough sketch of the landscapes based on the exptl. data, the characteristic features of catalase I can be elucidated. The sketch of a landscape, therefore, provides a new view in understanding enzymes.

L61 ANSWER 54 OF 154 MEDLINE DUPLICATE 37
AB Japanese-type acatalasemia is characterized by the almost total loss of catalase activity in red cells and is often associated with ulcerating oral lesions. A splicing **mutation** in intron 4 of **catalase gene** has so far been a sole disease-causing **mutation** found in Japanese-type acatalasemic patients. We report here a novel single base deletion in the **catalase gene** causing Japanese-type acatalasemia. The patient was a 72 year-old Japanese male. His maternal grandmother and his father were first cousins. Molecular analysis using non-RI PCR-SSCP analysis combined with direct sequencing revealed a deletion of the 358th thymine in exon 4 of the patient's **catalase gene**. The proband was a homozygote and his mother and his three children were heterozygotes for this mutation. The frame shift caused by the nucleotide deletion should alter the downstream amino acid sequence and introduce a new termination codon TGA 43 bp 3' to the mutation. Although the truncated peptide chain consisted of 133 amino acid residues might be translated in the patient's tissue, such an aberrant protein is expected to be extremely unstable and have no catalytic function at all. Our results suggest that Japanese-type acatalasemia is heterogeneous.

L61 ANSWER 56 OF 154 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI
AB Regions of Bacillus stearothermophilus catalase-I (EC-1.11.1.6) surrounding those responsible for catalytic activity, peroxidase activity and thermostability were studied, with a view to artificial evolution and enzyme engineering. Plasmid pOD64, a plasmid pUC19 derivative containing the **catalase gene**, was used for random **mutagenesis** in vitro using sodium nitrite, and was introduced into **catalase**-deficient **mutant** Escherichia coli UM228 for expression and characterization. 39 **Mutations** were produced in the **catalase gene**. Results indicated that the enzyme appeared to be fairly optimized for stability, catalytic activity and peroxidase activity, but there was some scope for improvement. Mutants with higher catalytic activity tended to have higher peroxidase activity, and vice versa. However, thermostability did not correlate with these properties. For this new type of protein engineering by artificial evolution, the landscape in the sequence space provides a guide map for directed walking, and the ease or difficulty in obtaining a mutant enzyme with a desired property maya be estimated from the rearranged landscape. (25 ref)

L61 ANSWER 60 OF 154 MEDLINE DUPLICATE 38
AB A number of integrational vectors were developed for use as genetic tools

in the food-borne pathogen Campylobacter coli. Integration of the plasmids occurred following genetic recombination via a Campbell-like mechanism. For an integrative plasmid containing a DNA fragment internal to the C. coli **catalase gene**, the insertion was **mutagenic** and led to a **catalase**-deficient phenotype. A procedure for generating random **mutations** in the C. coli chromosome, with these suicide-plasmids, was developed. In addition, the construction and utility of an integrable plasmid for generating transcriptional fusions to a cat reporter gene is described.

L61 ANSWER 65 OF 154 MEDLINE DUPLICATE 43
AB Isoniazid resistance in Mycobacterium tuberculosis has been associated with total deletion of the katG **gene**, which codes for **catalase**-peroxidase production. To determine whether this is a common mechanism of drug resistance, 9 isolates of isoniazid-resistant and 1 of isoniazid-sensitive M. tuberculosis were analyzed by polymerase chain reaction amplification of a 237-bp sequence of the katG gene. Amplification was observed in the isoniazid-sensitive isolate and in 8 resistant isolates; in only 1 isoniazid-resistant isolate was there no amplification of the expected band, suggesting gene deletion. DNA sequencing showed that 8 of the 9 isolates had point mutations, deletions, or insertions of 1-3 bases. Evidence corroborating the presence of mutations in the katG gene was obtained by single-strand conformation polymorphism analysis in these 8 isolates. Thus, mutations as well as insertions and deletions in the katG **gene** can account for inactive **catalase** peroxidase, leading to isoniazid resistance; **gene** deletion occurs only infrequently, in approximately 11% of cases.

L61 ANSWER 70 OF 154 HCAPLUS COPYRIGHT 2003 ACS
AB Unavailable

L61 ANSWER 76 OF 154 MEDLINE DUPLICATE 46
AB The ability of the H2O2-induced catalase of Salmonella typhimurium to induce cell-mediated immunity against S. typhimurium infection in mice was examined. When exponentially growing cells of S. typhimurium were treated with 20 microM H2O2, the cells resisted killing by 1 mM H2O2 and showed the induction of a new species of catalase in addition to the constitutively produced one. Two molecules of **catalases** in S. typhimurium were isolated from **mutant** strains: H2O2-induced **catalase** (**catalase** II, 320 kDa), from a regulatory **gene**-deficient oxyR1 **mutant**, and constitutive **catalase** (**catalase** I, 350 kDa), from a katG **gene** -deleted **mutant**. When mice were inoculated with a sublethal dose of live cells, an intensive protective immunity (100% survival at 3 weeks) after challenge with a virulent strain associated with the delayed-type footpad hypersensitivity (DTH) reactions to both catalase I and catalase II was induced. Conversely, mice immunized with formalin-killed virulent S. typhimurium did not elicit protective immunity or DTH to either catalase. When mice were immunized with catalase I or catalase II, an enhanced protection (to a certain extent: 50% survival at 3 weeks) was induced in mice immunized with catalase II associated with DTH which did not cross-react with catalase I but not in those given catalase I. These results suggest that H2O2-induced stress proteins, including catalase II, are the dominant antigens for cell-mediated immunity in live cells of S. typhimurium and that a burst of such stress proteins in live salmonellae in phagocytes is responsible for the induction of cell-mediated immunity that is largely involved in the protection of susceptible mice against Salmonella infection.

L61 ANSWER 80 OF 154 SCISEARCH COPYRIGHT 2003 ISI (R) DUPLICATE 50

L61 ANSWER 81 OF 154 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI
AB Protein **sequence** space was explored by random

mutagenesis. The Bacillus stearothermophilus **catalase** (EC-1.11.1.6) (formerly peroxidase, EC-1.11.1.7) **gene** (perA) was randomly **mutated** and transformed into Escherichia coli. **Catalase** and peroxidase activities of the 2,648 transformants were examined after heat treatment (70 deg, 10 min). 1323, 191 And 1134 transformants were classified as: S (both activities are as strong as those of the wild-type (WT)); M (at least one of the activities is not detected or is weaker than that of WT); and B (neither activity is detected). 6 Of the B transformants and 82 M transformants produced mutant proteins before heat treatment. All of the mutant enzymes detected were active before heat treatment. It was concluded that, for this enzyme, the activity subspace included the stability subspace. The amounts of enzyme protein produced by 108 S, B and M were measured spectrophotometrically and densitometrically before and after heat treatment, and by SDS-PAGE. Statistical analysis of these data showed the topography of WT enzyme near the space point. The peroxidase-catalase ratio was increased to 220 times that of the WT. (3 ref)

L61 ANSWER 83 OF 154 BIOTECHDS COPYRIGHT 2003 THOMSON DERWENT AND ISI
AB A DNA fragment, with a specified base sequence and which promotes external gene expression, is new. The DNA fragment is useful for constructing a vector with a high expression efficiency. The new DNA fragment is obtained by NcoI and BamHI cleavage of a castor oil plant (castorbean, Ricinus communis) **catalase** (EC-1.11.1.6) **gene** (CAT-1) fragment to isolate the region from the 1st intron to the 2nd exon. This is treated with an Escherichia coli DNA-polymerase (EC-2.7.7.7) Klenow enzyme and inserted into a phage M13 vector for cloning. A termination codon (TAG) is introduced into the intron and SalI site upstream of the 2nd exon by subsequent site-directed mutagenesis (1 base insertion and 2 base substitutions). A promoter, the resultant DNA fragment, reporter gene, external gene and terminator are inserted in this order into a plasmid pUC or plasmid pBR322 vector, for external gene expression in plant cells. Suitable external genes include those encoding glutamine-synthetase (EC-6.3.1.2), Bacillus thuringiensis crystal protein and beta-1,3-glucanase. In an example, vector plasmid pIG221 was constructed containing the new DNA fragment. (6pp)

L61 ANSWER 96 OF 154 MEDLINE DUPLICATE 55

L61 ANSWER 103 OF 154 HCAPLUS COPYRIGHT 2003 ACS
AB A method for agarose isoelec. focusing under acid conditions is described in which a single gel can be used to diagnose from equine red cell lysates genetic **variants** for carbonic anhydrase (CA) and **catalase** (Cat). Family and population data for 4801 horses of 27 breeds and 7 trap sites of Great Basin feral horses are presented to support the presence of a 6th CA allele, CAE, which was recognized previously but not described by published data. Allelic frequencies for the 2 systems suggest it may be appropriate to use this gel for parentage verification programs or to obtain population data for studies of the genus Equus.

L61 ANSWER 105 OF 154 HCAPLUS COPYRIGHT 2003 ACS
AB Activated oxygen species are important agents in oxygen toxicity by disrupting the functional and structural integrity of aerobic cells, primarily through damage to DNA, lipids, and proteins. The accumulated effect of oxygen free radical damage may be a contributing factor to the aging process. Genetic and mol. models for antioxidant enzymes are an important source of material to assess the role of free radical damage in biol. aging and if antioxidant enzymes play a significant role in minimizing these effects. Catalase and superoxide dismutase (SOD) are two major antioxidant enzymes involved in scavenging activated oxygen species. Six acatalasemic mutants and three null SOD mutants of D. melanogaster were isolated. The role of these enzymes in protecting Drosophila from

DNA damage and the relationship between oxyradical-induced DNA damage and lifespan detn. were studied. Both the Sod and **catalase genes** were cloned, and to test the prediction that overexpression of antioxidant enzymes can lengthen max. life span potential of Drosophila, multiple copies of these genes can be integrated into the genome to det. the effect of overexpression on Drosophila life span and mutation rate.

L61 ANSWER 133 OF 154 HCAPLUS COPYRIGHT 2003 ACS

AB The catalase of maize scutella is coded for by 2 loci, Cat1 and Cat2, which are differentially expressed in this tissue during early seedling growth. Two variant lines have been previously identified in which the developmental program for the expression of the Cat2 structural gene in the scutellum has been altered. Line R6-67 exhibits higher than normal levels of CAT-2 catalase in this tissue after four days of post-germinative growth. This phenotype is controlled by a temporal regulatory gene designated Car1. Line A16 exhibits a CAT-2 null phenotype. Car1 Is trans-acting and exhibits strict tissue (scutellum) specificity. A screen of other available inbred lines uncovered 8 addnl. catalase high-activity lines. All 8 lines exhibit significantly higher than normal levels of CAT-2 protein. Two of these lines have been shown to be regulated by Car1 as in R6-67. Another line (A338) uncovered during the screen exhibits a null phenotype for CAT-2 protein and resembles A16. Catalase activity levels are low in the scutellum and no CAT-2 CRM (cross-reacting material) is present in the tissues of this line. Also, unlike most maize lines, CAT-2 cannot be induced in the leaf tissue of A338 upon exposure to light. Finally, a single line (A337), demonstrating a novel catalase developmental program, was identified.

=> log y

COST IN U.S. DOLLARS	SINCE FILE ENTRY	TOTAL SESSION
FULL ESTIMATED COST	31.30	31.51

DISCOUNT AMOUNTS (FOR QUALIFYING ACCOUNTS)	SINCE FILE ENTRY	TOTAL SESSION
CA SUBSCRIBER PRICE	-3.26	-3.26

STN INTERNATIONAL LOGOFF AT 10:46:41 ON 01 APR 2003

	L #	Hits	Search Text	DBs	Time Stamp
1	L1	7075	catalase$1	USPAT; US-PGPUB	2003/03/31 14:27
2	L2	2415	alcaligenes or deleya or aquamarinus or microscilla or furvescens	USPAT; US-PGPUB	2003/03/31 14:27
3	L3	45	1 same 2	USPAT; US-PGPUB	2003/03/31 14:33
4	L4	57	1 near5 (muta$10 or variant$1)	USPAT; US-PGPUB	2003/03/31 14:33

	L #	Hits	Search Text	DBs	Time Stamp
1	L1	7075	catalase$1	USPAT; US-PGPUB	2003/03/31 14:27
2	L2	2415	alcaligenes or deleya or aquamarinus or microscilla or furvescens	USPAT; US-PGPUB	2003/03/31 14:27
3	L3	45	1 same 2	USPAT; US-PGPUB	2003/03/31 14:33
4	L4	57	1 near5 (muta$10 or variant$1)	USPAT; US-PGPUB	2003/03/31 14:33

PGPUB-DOCUMENT-NUMBER: 20030036187

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20030036187 A1

TITLE: Novel bacteria strain having heavy oil degrading ability, bacteria mixture, heavy oil degrading bacteria nuturing composition, formulation containing that composition, method of treating oil components, and building and civil engineering materials containing substance treated by that method

PUBLICATION-DATE: February 20, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Fujita, Tokio	Nara-shi		JP	

APPL-NO: 09/ 518814

DATE FILED: March 3, 2000

CONTINUED PROSECUTION APPLICATION: This is a publication of a continued prosecution application (CPA) filed under 37 CFR 1.53(d).

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	DOC-ID	APPL-DATE
JP	11-87162	1999JP-11-87162	March 29, 1999

US-CL-CURRENT: 435/281, 435/252.1 , 435/262

ABSTRACT:

A bacteria strain FERMBP-7046 belonging to the genus Acinetobacter, a strain FERMBP-7049 belonging to the genus Acinetobacter, a strain FERMBP-7047 belonging to the genus Pseudomonas, and a strain FERMBP-7048 belonging to the genus Alcaligenes are caused to act on an object of treatment, either individually or in a bacteria mixture including at least one of the foregoing strains. Thus it is possible to provide heavy oil degrading bacteria and a heavy oil degrading bacteria mixture which are inexpensively prepared, which simplify degradation and removal operations, and which can be stored and shipped simply, and to provide a nurturing composition for such bacteria, a method of degrading heavy oil using such bacteria, and building and civil engineering materials containing a substance obtained by heavy oil degradation treatment.

---------- KWIC ---------

Detail Description Paragraph - DETX (35):

[0064] The strain TFBOL-3 was a Gram negative short bacillus having maneuverability, which did not develop under anaerobic conditions, showed positive in both the **catalase** reaction and oxidase reaction, and did not generate acid from glucose. Based on these results, the TFBOL-3 strain was identified as bacteria of the genus **Alcaligenes**.

PGPUB-DOCUMENT-NUMBER: 20030008360

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20030008360 A1

TITLE: Process for the preparation of amino alcohols and derivatives thereof

PUBLICATION-DATE: January 9, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Bernegger-Egli, Christine	Munster		CH	
Birch, Olwen M.	Visp		CH	
Bossard, Pierre	Onex		CH	
Brieden, Walter	Glis		CH	
Brux, Frank	Raron		CH	
Burgdorf, Knut	Ried-Brig		CH	
Duc, Laurent	Chermignon		CH	
Etter, Kay-Sarah	Niedergampel		CH	
Guggisberg, Yves	Sierre		CH	
Sauter, Martin	Visp		CH	
Urban, Eva Maria	Visp		CH	

APPL-NO: 09/ 992982

DATE FILED: November 14, 2001

RELATED-US-APPL-DATA:

child 09992982 A1 20011114

parent division-of 09194626 19990521 US GRANTED

parent-patent 6368850 US

child 09194626 19990521 US

parent a-371-of-international PCT/EP97/02838 19970530 WO UNKNOWN

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	DOC-ID	APPL-DATE
CH	1359/96	1996CH-1359/96	May 30, 1996
CH	282/97	1997CH-282/97	February 10, 1997
CH	908/97	1997CH-908/97	April 18, 1997

US-CL-CURRENT: 435/128, 435/227 , 435/252.1 , 435/252.3 , 435/252.31

ABSTRACT:

The invention relates to a novel process for the preparation of (1R,4S)- or (1S,4R)-1-amino-4-(hydroxymethyl)-2-cyclopentene of the formulae 1 and/or of (1S,4R)- or (1R,4S)-amino alcohol derivatives of the general 2 and to novel microorganisms which are able to utilize a cyclopentene derivative of the general formula 3
as sole nitrogen source, as sole carbon source or as sole carbon and nitrogen source.

---------- KWIC ---------

Summary of Invention - Table CWU - BSTL (1):

1 Taxonomic description of **Alcaligenes**/Bordetella FB 188 (DSM 11172) Cell form rods Width .mu.m 0.5-0.6 Length .mu.m 1.0-2.5 Motility + Flagellation peritrichous Gram reaction - Lysis by 3% KOH + Aminopeptidase (Cerny) + Spores - Oxidase + **Catalase** + ADH (alcohol dehydrogenase) - NO.sub.2 from NO.sub.3 - Denitrification - Urease - Hydrolysis of gelatin - Acid from (OF test): Glucose - Fructose - Arabinose - Adipate + Caprate + Citrate + Malate + Mannitol -

Summary of Invention - Table CWU - BSTL (2):

2 Properties of the strain Taxonomic description of **Alcaligenes** xylosoxydans ssp. denitrificans HSZ 17 (DSM 10329) Cell form rods Width .mu.m 0.5-0.6 Length .mu.m 1.5-3.0 Motility + Flagellation peritrichous Gram reaction - Lysis by 3% KOH + Aminopeptidase (Cerny) + Spores - Oxidase + **Catalase** + Anaerobic growth - ADH (alcohol dehydrogenase) + NO.sub.2 from NO.sub.3 + Denitrification + Urease - Hydrolysis of Gelatin - Tween 80 - Acid from (OF test): Glucose aerobic - Xylose 80 - Substrate utilization Glucose - Fructose - Arabinose - Citrate + Malate + Mannitol - Taxonomic description of Arthrobacter sp. HSZ5 (DSM 10328) Characterization: Gram-positive irregular rods with a pronounced rod-cocci growth cycle; strictly aerobic; no acid or gas formation from glucose. Motility - Spores - **Catalase** + meso-Diaminopimelic acid in the cell wall: no Peptidoglkycan type: A3:alpha., L-Lys-L-Ser-L-Thr-L-Ala 16S rDNA sequence similarity: The highest values found on sequencing the region with the greatest vari- ability were 98.2% with Arthrobacter pascens, A. ramosus and A. oxydans Taxonomic description of Agrobacterium/Rhizobium HSZ30 Cell form pleomorphic rods Width [.mu.m] 0.6-1.0 Length [.mu.m] 1.5-3.0 Gram reaction - Lysis by 3% KOH + Aminopeptidase + Spores - Oxidase + **Catalase** + Motility + Anaerobic growth - Nitrite from nitrate - Denitrification - Urease + Hydrolysis of gelatin - Acid from: L-Arabinose + Galactose - Melezitose - Fucose + Arabitol - Mannitol - Erythritol - Alkalinization of litmus milk + Ketolactose -

PGPUB-DOCUMENT-NUMBER: 20020197605

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020197605 A1

TITLE: Novel Polynucleotides

PUBLICATION-DATE: December 26, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Nakagawa, Satoshi	Tokyo		JP	
Mizoguchi, Hiroshi	Tokyo		JP	
Ando, Seiko	Tokyo		JP	
Hayashi, Mikiro	Tokyo		JP	
Ochiai, Keiko	Tokyo		JP	
Yokoi, Haruhiko	Tokyo		JP	
Tateishi, Naoko	Tokyo		JP	
Senoh, Akihiro	Tokyo		JP	
Ikeda, Masato	Tokyo		JP	
Ozaki, Akio	Hofu-shi		JP	

APPL-NO: 09/ 738626

DATE FILED: December 18, 2000

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	DOC-ID	APPL-DATE
JP	P. HEI 11-377484	1999JP-P. HEI 11-377484	December 16, 1999
JP	P. 2000-159162	2000JP-P. 2000-159162	April 7, 2000
JP	P. 2000-280988	2000JP-P. 2000-280988	August 3, 2000

US-CL-CURRENT: 435/6, 435/287.2 , 435/91.2

ABSTRACT:

Novel polynucleotides derived from microorganisms belonging to coryneform bacteria and fragments thereof, polypeptides encoded by the polynucleotides and fragments thereof, polynucleotide arrays comprising the polynucleotides and fragments thereof, recording media in which the nucleotide sequences of the polynucleotide and fragments thereof have been recorded which are readable in a computer, and use of them.

---------- KWIC ---------

Detail Description Table CWU - DETL (4):

284 3784 274120 273542 579 prf:2312309A Mycobacterium smegmatis sigE 31.2

63.5 189 extracytoplasmic function alternative sigma factor 285 3785 274366 275871 1506 sp:CATV_BACSU Bacillus subtilis katA 52.9 76.4 492 vegetative **catalase** 286 3786 275891 276232 342 287 3787 276247 275957 291 288 3788 276763 276302 462 sp:LRP_KLEPN Klebsiella pneumoniae lrp 37.1 72.0 143 leucine-responsive regulatory protein 289 3789 276829 277581 753 sp:AZLC_BACSU Bacillus subtilis 1A1 azlC 30.5 68.0 203 branched-chain amino acid transport 290 3790 277581 277904 324 291 3791 278301 277987 315 292 3792 278732 278388 345 gp:AF178758_1 Sinorhizobium sp. As4 arsR 34.4 68.9 90 metalloregulatory protein 293 3793 278814 279893 1080 gp:AF178758_2 Sinorhizobium sp. As4 arsB 52.2 84.2 341 arsenic oxyanion-translocation pump membrane subunit 294 3794 279893 280279 387 sp:ARSC_STAXY Staphylococcus xylosus arsC 31.1 68.9 119 arsenate reductase 295 3795 280666 280349 318 296 3796 280939 280670 270 297 3797 281401 280949 453 298 3798 282933 281404 1530 gp:AF097740_4 Bacillus firmus OF4 mrpD 32.4 70.4 503 Na+/H+ antiporter or multiple resistance and pH regulation related protein D 299 3799 283317 282937 381 prf:2504285D Staphylococcus aureus mnhC 37.0 70.6 119 Na+/H+ antiporter 300 3800 286202 283317 2886 gp:AF097740_1 Bacillus firmus OF4 mrpA 34.1 64.3 824 Na+/H+ antiporter or multiple resistance and pH regulation related protein A 301 3801 286373 287857 1485 302 3802 287661 287059 603 303 3803 288829 287966 864 304 3804 289796 289131 666 sp:CZCR_ALCEU **Alcaligenes** eutrophus CH34 38.6 70.4 223 transcriptional activator czcR 305 3805 291243 289777 1467 prf:2214304B Mycobacterium tuberculosis 26.7 56.8 521 two-component system sensor mtrB histidine kinase 306 3806 291815 292417 603 sp:APL_LACLA Lactococcus lactis MG1363 apl 28.3 60.0 180 alkaline phosphatase 307 3807 291833 291273 561 308 3808 293511 292597 915 pir:B69865 Bacillus subtilis ykuE 26.1 54.7 307 phosphoesterase 309 3809 293539 293991 453 sp:YQEY_BACSU Bacillus subtilis yqeY 37.6 71.8 149 hypothetical protein 310 3810 296388 294004 2385 prf:2209359A Mycobacterium leprae pon1 48.3 77.1 782 class A penicillin-binding protein(PBP1) 311 3811 297064 297402 339 pir:S20912 Streptomyces coelicolor A3(2) 40.9 63.4 71 regulatory protein whiB 312 3812 297431 297622 192 313 3813 297631 297783 153 gp:SCH17_10 Streptomyces coelicolor A3(2) 84.0 96.0 50 hypothetical protein SCH17.10c 314 3814 297792 298250 459 pir:G70790 Mycobacterium tuberculosis 65.1 89.9 149 transcriptional regulator H37Rv Rv3678c 315 3815 299684 298332 1353 sp:SHIA_ECOLI Escherichia coli K12 shiA 37.3 68.9 440 shikimate transport protein 316 3816 300087 300695 609 317 3817 301261 299726 1536 sp:LCFA_BACSU Bacillus subtilis lcfA 31.1 59.9 534 long-chain-fatty-acid-CoA ligase 318 3818 302036 301512 525 gp:SCJ4_28 Streptomyces coelicolor A3(2) 33.9 65.4 127 transcriptional regulator SCJ4.28c 319 3819 302167 303099 933 sp:FABG_BACSU Bacillus subtilis fabG 41.0 72.5 251 3-oxoacyl-(acyl-carrier-protein) reductase 320 3820 303133 304074 942 sp:FLUG_EMENI Emericella nidulans fluG 27.2 52.0 254 glutamine synthetase 321 3821 304070 305263 1194 prf:2512386A Arabidopsis thaliana atg6 38.8 66.5 394 short-chain acyl CoA oxidase 322 3822 305288 305758 471 sp:NODN_RHILV Rhizobium leguminosarum nodN 45.8 72.6 153 nodulation protein 323 3823 305858 306700 843 pir:F70790 Mycobacterium tuberculosis 41.2 72.4 272 hydrolase H37Rv Rv3677c 324 3824 306367 305195 1173 325 3825 306800 307504 705 326 3826 307462 306782 681 prf.2323349A Vibrio cholerae crp 30.9 65.7 207 cAMP receptor protein 327 3827 307918 307727 192 328 3828 307955 308734 780 sp:UVEN_MICLU Micrococcus luteus pdg 57.5 77.1 240 ultraviolet N-glycosylase/AP lyase 329 3829 308745 309302 558 pirB70790 Mycobacterium tuberculosis 34.6 58.3 211 cytochrome c biogenesis protein H37Rv Rv3673c 330 3830 309370 310038 669 sp:YEAB_ECOLI Escherichia coli K12 yeaB 30.7 56.3 192 hypothetical protein 331 3831 310135 311325 1191

pir:H70789 Mycobacterium tuberculosis 38.6 71.0 396 serine proteinase H37Rv Rv3671c 332 3832 312891 311899 993 prf:2411250A Corynebacterium sp. C12 cEH 29.6 52.1 280 epoxide hydrolase 333 3833 313457 312909 549 pir: F70789 Mycobacterium tuberculosis 46.8 77.6 156 hypothetical membrane protein 334 3834 314590 313625 966 pir:S72914 Mycobacterium leprae 29.6 65.5 287 phosphoserine phosphatase MTCY20G9.32C. serB 335 3835 314980 316002 1023 pir:E70788 Mycobacterium tuberculosis 35.0 60.2 349 hypothetical protein H37Rv Rv3660c 336 3836 316110 317132 1023 pir:C44020 Escherichia coli trbB 32.9 66.5 319 conjugal transfer region protein 337 3837 316964 316350 615 338 3838 317078 317893 816 pir:C70788 Mycobacterium tuberculosis 30.5 63.7 262 hypothetical membrane protein H37Rv Rv3658c 339 3839 317920 318465 546 pir:B70788 Mycobacterium tuberculosis 33.8 64.2 201 hypothetical protein H37Rv Rv3657c 340 3840 318492 318689 198 pir:A70788 Mycobacterium tuberculosis 47.5 84.8 59 hypothetical protein H37Rv Rv3656c 341 3841 318696 319013 318 342 3842 318958 318545 414 343 3843 318991 319335 345 344 3844 321690 319336 2355 sp:YPRA_BACSU Bacillus subtilis yprA 33.8 66.1 764 ATP-dependent RNA helicase 345 3845 322007 322207 201 sp:CSP_ARTGO Arthrobacter globiformis SI55 68.7 88.1 67 cold shock protein csp 346 3846 322216 321992 225 347 3847 322910 325897 2988 pir:G70563 Mycobacterium tuberculosis 61.7 81.6 977 DNA topoisomerase I H37Rv Rv3646c topA 348 3848 325904 326614 711 349 3849 327735 326695 1041 sp:CYAB_STIAU Stigmatella aurantiaca B17R20 32.7 62.4 263 adenylate cyclase cyaB 350 3850 328283 329539 1257 sp:DP3X_BACSU Bacillus subtilis dnaX 25.3 52.7 423 DNA polymerase III subunit tau/gamma 351 3851 329748 329909 162 352 3852 329933 330376 444 gp:AE002103_3 Ureaplasma urealyticum uu033 32.6 59.0 144 hypothetical protein 353 3853 330973 331533 561 gp:AE001882_8 Deinococcus radiodurans 39.0 63.4 172 hypothetical protein DR0202 354 3854 331552 332433 882 sp:RLUC_ECOLI Escherichia coli K12 rluC 43.6 65.0 314 ribosomal large subunit pseudouridine synthase C 355 3855 332919 334562 1644 sp:BGLX_ERWCH Erwinia chrysanthemi D1 bgxA 34.8 60.2 558 beta-glucosidase/xylosidase 356 3856 332965 334953 1989 gp:AF090429_2 Azospirillum irakense salB 38.6 61.4 101 beta-glucosidase 357 3857 335009 336112 1104 sp:FADH_AMYME Amycolatopsis methanolica 66.6 86.5 362 NAD/mycothiol-dependent formaldehyde dehydrogenase 358 3858 335805 335185 621 359 3859 336212 336748 537 sp:YTH5_RHOSN Rhodococcus erythropolis orf5 32.5 47.5 160 metallo-beta-lactamase superfamily 360 3860 336781 337449 669 sp:FABG_ECOLI Escherichia coli K12 fabG 25.9 55.8 251 3-oxoacyl-(acyl-carrier-protein) reductase 361 3861 337539 338768 1230 gp:AF148322_1 Streptomyces viridifaciens vlmF 26.3 56.4 415 valanimycin resistant protein 362 3862 338793 339725 933 prf:2512357B Actinoplanes sp. acbB 33.8 66.3 320 dTDP-glucose

PGPUB-DOCUMENT-NUMBER: 20020129400

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020129400 A1

TITLE: Multi-gene expression constructs containing modified inteins

PUBLICATION-DATE: September 12, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Snell, Kristi D.	Belmont	MA	US	

APPL-NO: 09/ 779957

DATE FILED: February 9, 2001

RELATED-US-APPL-DATA:

non-provisional-of-provisional 60181739 20000211 US

US-CL-CURRENT: 800/278, 800/279 , 800/281 , 800/287 , 800/300 , 800/302

ABSTRACT:

Methods and constructs for the introduction of multiple genes into plants using a single transformation event are described. Constructs contain a single 5' promoter operably linked to DNA encoding a modified intein splicing unit. The splicing unit is expressed as a polyprotein and consists of a first protein fused to an intein fused to a second protein. The splicing unit has been engineered to promote excision of all non-essential components in the polyprotein but prevent the ligation reactions normally associated with protein splicing. Additional genetic elements encoding inteins and additional proteins can be fused in frame to the 5'-terminus of the coding region for the second protein to form a construct for expression of more than two proteins. A single 3' termination sequence, such as a polyadenylation sequence when the construct is to be expressed in eucaryotic cells, follows the last coding sequence. These methods and constructs are particularly useful for creating plants with stacked input traits, illustrated by glyphosate tolerant plants producing BT toxin, and/or value added products, illustrated by the production of polyhydroxyalkanoates in plants.

BACKGROUND OF THE INVENTION

[0001] This application claims priority to U.S. Ser. No. 60/181,739 filed Feb. 11, 2000.

---------- KWIC ---------

Detail Description Paragraph - DETX (25):

[0032] Enzymes useful for polymer production include the following. ACP-CoA transacylase refers to an enzyme capable of converting beta-hydroxy-acyl ACPs to beta-hydroxy-acyl CoAs, such as the phaG encoded protein from Pseudomonas putida (Rehm,et al. J. Biol. Chem. 1998, 273, 24044-24051). PHA synthase refers to a gene encoding an enzyme that polymerizes hydroxyacyl CoA monomer units to form polymer. Examples of PHA synthases include a synthase with medium chain length substrate specificity, such as phaC1 from Pseudomonas oleovorans (WO 91/00917; Huisman, et al. J. Biol. Chem. 1991, 266, 2191-2198) or Pseudomonas aeruginosa (Timm, A. & Steinbuchel, A. Eur. J. Biochem. 1992, 209, 15-30), the synthase from **Alcaligenes** eutrophus with short chain length specificity (Peoples, O. P. & Sinskey, A. J. J. Biol. Chem. 1989, 264, 15298-15303), or a two subunit synthase such as the synthase from Thiocapsa pfennigii encoded by phaE and phaC (U.S. Pat. No. 6,011,144). A range of PHA synthase genes and genes encoding additional steps in PHA biosynthesis are described by Madison and Huisman (1999, Microbiology and Molecular biology Reviews 63:21-53) incorporated herein in its entirety by reference. An alpha subunit of beta-oxidation pertains to a multifunctional enzyme that minimally possesses hydratase and dehydrogenase activities (FIG. 2). The subunit may also possess epimerase and .DELTA.3-cis, .DELTA.2-trans isomerase activities. Examples of alpha subunits of beta-oxidation are FadB from E. coli (DiRusso, C. C. J. Bacteriol. 1990, 172, 6459-6468), FaoA from Pseudomonas fragi (Sato, S., Hayashi, et al. J. Biochem. 1992, 111, 8-15), and the E. coli open reading frame f714 that contains homology to multifunctional .alpha. subunits of .beta.-oxidation (Genbank Accession # 1788682). A .beta. subunit of .beta.-oxidation refers to a polypeptide capable of forming a multifunctional enzyme complex with its partner .alpha. subunit. The .beta. subunit possesses thiolase activity (FIG. 2). Examples of .beta. subunits are FadA from E. coli (DiRusso, C. C. J. Bacteriol. 1990, 172, 6459-6468), FaoB from Pseudomonas fragi (Sato, S., Hayashi, M., Imamura, S., Ozeki, Y., Kawaguchi, A. J. Biochem. 1992, 111, 8-15), and the E. coli open reading frame f436 that contains homology to .alpha. subunits of .beta.-oxidation (Genbank Accession # AE000322; gene b2342). A reductase refers to an enzyme that can reduce .beta.-ketoacyl CoAs to R-3-OH-acyl CoAs, such as the NADH dependent reductase from Chromatium vinosum (Liebergesell, M., & Steinbuchel, A. Eur. J. Biochem. 1992, 209, 135-150), the NADPH dependent reductase from **Alcaligenes** eutropus (Peoples, 0. P. & Sinskey, A. J. J. Biol. Chem. 1989, 264, 15293-15297), or the NADPH reductase from Zoogloea ramigera (Peoples, O. P., Masamune, S., Walsh, C. T., Sinskey, A. J. J. Biol. Chem. 1987, 262, 97-102; Peoples, O. P. & Sinskey, A. J. J. Molecular Microbiology 1989, 3, 349-357). A beta-ketothiolase refers to an enzyme that can catalyze the conversion of acetyl CoA and an acyl CoA to a .beta.-ketoacyl CoA, a reaction that is reversible (FIG. 2). An example of such a thiolase is PhaA from **Alcaligenes** eutropus (Peoples, O. P. & Sinskey, A. J. J. Biol. Chem. 1989, 264, 15293-15297). An acyl CoA oxidase refers to an enzyme capable of converting saturated acyl CoAs to .DELTA.2 unsaturated acyl CoAs (FIG. 2). Examples of acyl CoA oxidases are POX1 from Saccharomyces cerevisiae (Dmochowska, et al. Gene, 1990, 88, 247-252) and ACX1 from Arabidopsis thaliana (Genbank Accession # AF057044). A **catalase** refers to an enzyme capable of converting hydrogen peroxide to hydrogen and oxygen. Examples of **catalases** are KatB from

Pseudomonas aeruginosa (Brown, et al., J. Bacteriol. 1995, 177, 6536-6544) and KatG from E. coli (Triggs-Raine, B. L. & Loewen, P. C. Gene 1987, 52, 121-128).

PGPUB-DOCUMENT-NUMBER: 20020102680

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020102680 A1

TITLE: Catalases

PUBLICATION-DATE: August 1, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Robertson, Dan E.	Solana Beach	CA	US	
Sanyal, Indrajit	Bethesda	MD	US	
Adhikari, Robert	Voorhees	NJ	US	

APPL-NO: 09/ 884889

DATE FILED: June 19, 2001

RELATED-US-APPL-DATA:

child 09884889 A1 20010619

parent continuation-in-part-of 09412347 19991005 US PENDING

child 09412347 19991005 US

parent continuation-of 08951844 19971016 US PATENTED

child 08951844 19971016 US

parent division-of 08674887 19960703 US PATENTED

US-CL-CURRENT: 435/183, 435/320.1 , 435/325 , 435/69.1 , 536/23.2

ABSTRACT:

The invention relates to catalases and to polynucleotides encoding the catalases. In addition methods of designing new catalases and method of use thereof are also provided. The catalases have increased activity and stability at increased pH and temperature.

RELATED APPLICATIONS

[0001] This application claims the benefit of U.S. Application Ser. No. 09/412,347, filed Oct. 5, 1999, now pending; which is a continuation of U.S. Application Ser. No. 08/951,844, filed Oct. 16, 1997, now issued U.S. Pat. No. 6,074,860; which is a divisional of U.S. Application Ser. No. 08/674,887, filed Jul. 3, 1996, now U.S. Pat. No. 5,939,300.

---------- KWIC ---------

Brief Description of Drawings Paragraph - DRTX (7):

[0027] FIG. 5 shows the full length DNA sequence (SEQ ID NO: 5) and the corresponding deduced amino acid sequence (SEQ ID NO: 6) for **Alcaligenes (Deleya)aquamarinus Catalase**-64CA2.

Brief Description of Drawings Paragraph - DRTX (8):

[0028] FIG. 6 shows the full length DNA sequence (SEQ ID NO: 7) and the corresponding deduced amino acid sequence (SEQ ID NO: 8) for **Microscilla furvescens Catalase** 53CA1.

Detail Description Paragraph - DETX (246):

[0271] An E. coli **catalase** negative host strain CAT500 was infected with a phage solution containing sheared pieces of DNA from **Alcaligenes (Deleya) aquamarinus** in pBluescript plasmid and plated on agar containing LB with ampicillin (100 .mu.g/mL), methicillin (80 .mu.g/mL) and kanamycin (100 .mu.g/mL) according to the method of Hay and Short (Hay, B. and Short, J., J. Strategies, 5:16, 1992). The resulting colonies were picked with sterile toothpicks and used to singly inoculate each of the wells of 96-well microtiter plates. The wells contained 250 .mu.L of SOB media with 100 .mu.g/mL ampicillin, 80 .mu.g/mL methicillin, and (SOB Amp/Meth/Kan). The cells were grown overnight at 37.degree. C. without shaking. This constituted generation of the "SourceGeneBank"; each well of the Source GeneBank thus contained a stock culture of E. coli cells, each of which contained a pBluescript plasmid with a unique DNA insert. Same protocol was adapted for screening **catalase from Microscilla furvescens**.

Detail Description Paragraph - DETX (257):

[0279] **Microscilla furvescens catalase**: (PQET vector)

US-PAT-NO: 6410290

DOCUMENT-IDENTIFIER: US 6410290 B1

TITLE: Catalases

DATE-ISSUED: June 25, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Robertson; Dan E.	Haddonfield	NJ	N/A	N/A
Sanyal; Indrajit	Maple Shade	NJ	N/A	N/A
Adhikary; Robert S.	Cherry Hill	NJ	N/A	N/A

APPL-NO: 09/ 412347

DATE FILED: October 5, 1999

PARENT-CASE:

This application is a divisional of application U.S. patent application Ser. No. 08/951,844, filed Oct. 16, 1997 now U.S. Pat. No. 6,074,860, which is a divisional of U.S. patent application Ser. No. 08/674,887, filed on Jul. 3, 1996 now U.S. Pat. No. 5,939,300, the entire contents of which are hereby incorporated by reference herein.

US-CL-CURRENT: 435/192, 426/580 , 435/262.5 , 435/264 , 435/278 , 536/23.2

ABSTRACT:

Catalase enzymes derived from bacteria from the genera **Alcaligenes (Deleya) and Microscilla** are disclosed. The enzymes are produced from native or recombinant host cells and can be utilized to destroy or detect hydrogen peroxide, e.g., in production of glyoxylic acid and in glucose sensors, and in processes where hydrogen peroxide is used as a bleaching or antibacterial agent, e.g. in contact lens cleaning, in bleaching steps in pulp and paper preparation and in the pasteurization of dairy products.

9 Claims, 8 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 8

---------- KWIC ---------

Abstract Text - ABTX (1):

Catalase enzymes derived from bacteria from the genera **Alcaligenes (Deleya) and Microscilla** are disclosed. The enzymes are produced from native or recombinant host cells and can be utilized to destroy or detect hydrogen peroxide, e.g., in production of glyoxylic acid and in glucose sensors, and in processes where hydrogen peroxide is used as a bleaching or antibacterial agent, e.g. in contact lens cleaning, in bleaching steps in pulp and paper preparation and in the pasteurization of dairy products.

Drawing Description Text - DRTX (3):

FIGS. 1A-1D show the full-length DNA sequence (SEQ ID NO: 5)and the corresponding deduced amino acid sequence (SEQ ID NO: 6) for **Alcaligenes (Deleya) aquamarinus Catalase**--64CA2.

Drawing Description Text - DRTX (4):

FIGS 2A-2D show the full-length DNA sequence (SEQ ID NO: 7) and the corresponding deduced amino acid sequence (SEQ ID NO: 8) for **Microscilla furvescens Catalase** 53CA1.

Detailed Description Text - DETX (19):

With respect to **Alcaligenes** (Delaya) **aquamarinus,** the protein with the closest amino acid sequence identity of which the inventors are currently aware is the **Microscilla furvescens catalase** (59.5% protein identity; 60% DNA identity). The next closest is a Mycobacterium tuberculosis **catalase** (KatG), with a 54% protein identity.

Detailed Description Text - DETX (20):

With respect to **Microscilla furvescens,** the protein with closest amino acid sequence identity of which the inventors are currently aware is **catalase** I of Bacillus stearothermophilus, which has a 69% amino acid identity.

Detailed Description Text - DETX (73):

An E. coli **catalase** negative host strain CAT500 was infected with a phage solution containing sheared pieces of DNA from **Alcaligenes (Deleya)** aquamanrinus in pBluescript plasmid and plated on agar containing LB with ampicillin (100 .mu.g/mL), methicillin (80 .mu.g/mL) and kanamycin (100 .mu.g/mL) according to the method of Hay and Short (Hay, B. and Short, J., J. Strategies, 5:16, 1992). The resulting colonies were picked with sterile toothpicks and used to singly inoculate each of the wells of 96-well microtiter plates. The wells contained 250 .mu.L of SOB media with 100 .mu.g/mL ampicillin, 80 .mu.g/mL methicillin, and (SOB Amp/Meth/Kan). The cells were grown overnight at 37.degree. C. without shaking. This constituted generation of the "SourceGeneBank"; each well of the Source GeneBank thus contained a

stock culture of E. coli cells, each of which contained a pBluescript plasmid with a unique DNA insert. Same protocol was adapted for screening **catalase from Microscilla furvescens**.

Detailed Description Text - DETX (85):

Microscilla furvescens catalase: (pQET vector) 5' Primer CCGAGAATTCATTAAAGAGGAGAAATTAACTATGGAAAATCACAAACACTCA EcoRI (SEQ ID NO: 3) 3'
Primer CGAAGGTACCTTATTTCAGATCAAACCGGTC KpnI (SEQ ID NO: 4)

US-PAT-NO: 6368850

DOCUMENT-IDENTIFIER: US 6368850 B1

TITLE: Process for the preparation of amino alcohols and derivatives thereof

DATE-ISSUED: April 9, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Bernegger-Egli; Christine	Munster	N/A	N/A	CH
Birch; Olwen M.	Visp	N/A	N/A	CH
Bossard; Pierre	Onex	N/A	N/A	CH
Brieden; Walter	Glis	N/A	N/A	CH
Brux; Frank	Raron	N/A	N/A	CH
Burgdorf; Knut	Ried-Brig	N/A	N/A	CH
Duc; Laurent	Chermignon	N/A	N/A	CH
Etter; Kay-Sarah	Niedergampel	N/A	N/A	CH
Guggisberg; Yves	Sierre	N/A	N/A	CH
Sauter; Martin	Visp	N/A	N/A	CH
Urban; Eva Maria	Visp	N/A	N/A	CH

APPL-NO: 09/ 194626

DATE FILED: May 21, 1999

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
CH	1359/96	May 30, 1996
CH	0282/97	February 10, 1997
CH	908/97	April 18, 1997

PCT-DATA:
APPL-NO: PCT/EP97/02838
DATE-FILED: May 30, 1997
PUB-NO: WO97/45529
PUB-DATE: Dec 4, 1997
371-DATE: May 21, 1999
102(E)-DATE:May 21, 1999

US-CL-CURRENT: 435/280

ABSTRACT:

The invention relates to a novel process for the preparation of (1R,4S)- or (1S,4R)-1-amino-4-(hydroxymethyl)-2-cyclopentene of the formulae ##STR1##

and/or of (1S,4R)- or (1R,4S)-amino alcohol derivatives of the general formulae ##STR2##

and to novel microorganisms which are able to utilize a cyclopentene derivative of the general formula ##STR3##

as sole nitrogen source, as sole carbon source or as sole carbon and nitrogen source.

The invention further relates to enzyme extracts and enzymes having N-acetylamino-alcohol hydrolase activity obtainable from these microorganisms.

13 Claims, 2 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 2

---------- KWIC ---------

Detailed Description Paragraph Table - DETL (1):

Taxonomic description of **Alcaligenes**/Bordetella FB 188 (DSM 11172) Cell form rods Width .mu.m 0.5-0.6 Length .mu.m 1.0-2.5 Motility + Flagellation peritrichous Gram reaction - Lysis by 3% KOH + Aminopeptidase (Cerny) + Spores - Oxidase + **Catalase** + ADH (alcohol dehydrogenase) - NO.sub.2 from NO.sub.3 - Denitrification - Urease - Hydrolysis of gelatin - Acid from (OF test): Glucose - Fructose - Arabinose - Adipate + Caprate + Citrate + Malate + Mannitol -

Detailed Description Paragraph Table - DETL (2):

Taxonomic description of **Alcaligenes** xylosoxydans ssp. denitrificans HSZ 17 (DSM 10329) Properties of the strain Cell form rods Width .mu.m 0.5-0.6 Length .mu.m 1.5-3.0 Motility + Flagellation peritrichous Gram reaction - Lysis by 3% KOH + Aminopeptidase (Cerny) + Spores - Oxidase + **Catalase** + Anaerobic growth - ADH (alcohol dehydrogenase) + NO.sub.2 from NO.sub.3 + Denitrification + Urease - Hydrolysis of Gelatin - Tween 80 - Acid from (OF test): Glucose aerobic - Xylose 80 - Substrate utilization Glucose - Fructose - Arabinose - Citrate + Malate + Mannitol -

US-PAT-NO: 6156205

DOCUMENT-IDENTIFIER: US 6156205 A

TITLE: Process for the purification of gases containing hydrogen sulphide

DATE-ISSUED: December 5, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Buisman; Cees Jan Nico	Harich	N/A	N/A	NL
Sorokin; Dimitri Yuri	Moscow	N/A	N/A	RU
Kuenen; Joannes Gijsbrecht	Delft	N/A	N/A	NL
Janssen; Albert Jozef Hendrik	Sneek	N/A	N/A	NL
Robertson; Lesley Anna	Den Haag	N/A	N/A	NL

APPL-NO: 09/ 180548

DATE FILED: January 25, 1999

PARENT-CASE:

CROSS REFERENCE TO RELATED APPLICATION

This is the 35 USC 371 National Stage application of International application PCT/NL97/00265 filed on May 12, 1997, which designated the United States of America.

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
EP	96201286	May 10, 1996

PCT-DATA:
APPL-NO: PCT/NL97/00265
DATE-FILED: May 12, 1997
PUB-NO: WO97/43033
PUB-DATE: Nov 20, 1997
371-DATE: Jan 25, 1999
102(E)-DATE:Jan 25, 1999

US-CL-CURRENT: 210/620, 210/622 , 423/220 , 423/243.11 , 435/266 , 95/156

ABSTRACT:

A process for scrubbing a gas containing hydrogen sulphide and/or carbonyl sulphide, in which the spent scrubbing liquid is treated with autotrophic sulphide-oxidizing bacteria capable of oxidizing at high pH, and elemental sulphur is obtained, the elemental sulphur is separated and the treated scrubbing liquid is recycled to the gas scrubbing step. Before recycling, the

scrubbing liquid may further be treated with heterotrophic thiosulphate-oxidizing bacteria which produce polythionate which is useful for further enhancing the sulphide-scrubbing capacity of the scrubbing liquid.

19 Claims, 2 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 2

---------- KWIC ---------

Brief Summary Text - BSTX (36):

Strain ChG 3--3 is a gram-negative, **catalase**-positive motile rod. It requires NaCl for growth. Strain ChG 3--3 was studied using standard taxonomic tests (API 20 NE), and compared to known species using an on-line database. Related genera are Pseudomonas, **Deleya** and Halomonas. Its nearest match was Pseudomonas stutzeri I sensu stricto (84.3% similarity). It is clearly a new species which, for the moment will be known as Pseudomonas strain ChG 3--3. It has a mol % G+C of 57.3.

US-PAT-NO: 6074860

DOCUMENT-IDENTIFIER: US 6074860 A

TITLE: Catalases

DATE-ISSUED: June 13, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Robertson; Dan E.	Haddonfield	NJ	N/A	N/A
Sanyal; Indrajit	Maple Shade	NJ	N/A	N/A
Adhikary; Robert S.	Cherry Hill	NJ	N/A	N/A

APPL-NO: 08/ 951844

DATE FILED: October 16, 1997

PARENT-CASE:

This is a divisional of copending application Ser. No. 08/674,887, filed Jul. 3, 1996.

US-CL-CURRENT: 435/192, 536/23.2

ABSTRACT:

Catalase enzymes derived from bacteria from the genera **Alcaligenes (Deleya) and Microscilla** are disclosed. The enzymes are produced from native or recombinant host cells and can be utilized to destroy or detect hydrogen peroxide, e.g., in production of glyoxylic acid and in glucose sensors, and in processes where hydrogen peroxide is used as a bleaching or antibacterial agent, e.g. in contact lens cleaning, in bleaching steps in pulp and paper preparation and in the pasteurization of dairy products.

2 Claims, 2 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 8

---------- KWIC ---------

Abstract Text - ABTX (1):

Catalase enzymes derived from bacteria from the genera **Alcaligenes (Deleya) and Microscilla** are disclosed. The enzymes are produced from native or recombinant host cells and can be utilized to destroy or detect hydrogen

peroxide, e.g., in production of glyoxylic acid and in glucose sensors, and in processes where hydrogen peroxide is used as a bleaching or antibacterial agent, e.g. in contact lens cleaning, in bleaching steps in pulp and paper preparation and in the pasteurization of dairy products.

Drawing Description Text - DRTX (3):

FIG. 1 shows the full-length DNA sequence (SEQ ID NO: 5) and the corresponding deduced amino acid sequence (SEQ ID NO: 6) for **Alcaligenes (Deleya) aquamarinus Catalase**-64CA2.

Drawing Description Text - DRTX (4):

FIG. 2 shows the full-length DNA sequence (SEQ ID NO: 7) and the corresponding deduced amino acid sequence (SEQ ID NO: 8) for **Microscilla furvescens Catalase** 53CA1.

Detailed Description Text - DETX (20):

With respect to **Alcaligenes** (Delaya) **aquamarinus,** the protein with the closest amino acid sequence identity of which the inventors are currently aware is the **Microscilla furvescens catalase** (59.5% protein identity; 60% DNA identity). The next closest is a Mycobacterium tuberculosis **catalase** (KatG), with a 54% protein identity.

Detailed Description Text - DETX (21):

With respect to **Microscilla furvescens,** the protein with the closest amino acid sequence identity of which the inventors are currently aware is **catalase** I of Bacillus stearothermophilus, which has a 69% amino acid identity.

Detailed Description Text - DETX (75):

An E. coli **catalase** negative host strain CAT500 was infected with a phage solution containing sheared pieces of DNA from **Alcaligenes (Deleya) aquamarinus** in pBluescript plasmid and plated on agar containing LB with ampicillin (100 .mu.g/mL), methicillin (80 .mu.g/mL) and kanamycin (100 .mu.g/mL) according to the method of Hay and Short (Hay, B. and Short, J., J. Strategies, 5:16, 1992). The resulting colonies were picked with sterile toothpicks and used to singly inoculate each of the wells of 96-well microtiter plates. The wells contained 250 .mu.L of SOB media with 100 .mu.g/mL ampicillin, 80 .mu.g/mL methicillin, and (SOB Amp/Meth/Kan). The cells were grown overnight at 37.degree. C. without shaking. This constituted generation of the "SourceGeneBank"; each well of the Source GeneBank thus contained a stock culture of E. coli cells, each of which contained a pBluescript plasmid with a unique DNA insert. Same protocol was adapted for screening **catalase from Microscilla furvescens**.

Detailed Description Text - DETX (87):

Microscilla furvescens catalase: (pQET vector)

US-PAT-NO: 5994540

DOCUMENT-IDENTIFIER: US 5994540 A

TITLE: Di-and trisubstituted pyridines and their preparation

DATE-ISSUED: November 30, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Kiener; Andreas	Visp	N/A	N/A	CH
Roduit; Jean-Paul	Grone	N/A	N/A	CH
Wellig; Alain	Ried-Morel	N/A	N/A	CH

APPL-NO: 09/ 069996

DATE FILED: April 30, 1998

PARENT-CASE:

CROSS-REFERENCE

This application is a divisional of Ser. No. 08/561,230 filed Nov. 21, 1995, U.S. Pat. No. 5,760,236.

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
CH	3537/94	November 25, 1994
CH	3538/94	November 25, 1994

US-CL-CURRENT: 544/238, 435/29 , 546/284.4 , 546/291 , 546/301

ABSTRACT:

Substituted pyridines of the general formula: ##STR1## wherein R.sup.1 is hydroxyl or chlorine, and a) X is hydrogen or chlorine, R.sup.2 and R.sup.3 together are .dbd.O, R.sup.4 is a group of the formula --OR.sup.5 and R.sup.5 is hydrogen, C.sub.1 -C.sub.4 -alkyl or benzyl or

b) X is hydrogen and R.sup.2, R.sup.3 and R.sup.4 together are .dbd.N--NH--, or

c) X and R.sup.2 each is hydrogen and R.sup.3 and R.sup.4 together are --O--, or

d) X and R.sup.2 each is hydrogen, R.sup.3 is hydroxyl and R.sup.4 is amino or hydroxy.

The compounds are obtained by subjecting nicotine to microbiological oxidation to give 5-succinoyl-2-pyridone, followed by chemical reactions. The

compounds are suitable as intermediates for the preparation of pharmaceutically active compounds.

1 Claims, 0 Drawing figures

Exemplary Claim Number: 1

---------- KWIC ---------

Brief Summary Paragraph Table - BSTL (4):

TABLE 4 _____ Identification of strain DSM 8244 (DSM ID 93-204) Variovorax paradoxus (= **Alcaligenes** paradoxus) _____ Strain Characteristics Cell shape Rods NO.sub.2 from NO.sub.3 - Width in .mu.m 0.8-1.0 Denitrification - Length in .mu.m 1.5-3.5 Phyenylalanine deaminase - Motility + Levan from sucrose - Gram reaction - Lecinthinase - Lysis by 3% KOH + Urease - Aminopeptidase (Cerny) + Hydrolysis of Spores - starch - Oxidase + gelatine - **Catalase** + casein - Growth DNA - anaerobic - Tween 80 + 37.degree./41.degree. C. -/- aesculin - pH 5.7 - Tyrosine metabolization + MacConkey agar + Substrate utilization SS agar - acetate + cetrimide agar - adipate + Pigments caprate + non-diffusible - citrate + diffusible - glycolate + fluorescent - levulinate + pyocyanin - malate + Acid from (OF test) malonate - glucose aerobic w? phenylacetate + glucose anaerobic - L-arabinose + glucose aerobic with - D-fructose + alkaline reaction D-glucose + Gas from glucose - D-mannose + Acid from (ASS) maltose - D-glucose + D-xylose + D-fructose + mannitol + D-xylose + gluconate + ONPG/PNPG - 2-ketogluconate + ADH - N-acetylglucosamine + VP - L-serine - Indole - Result: Strain DSM 8244 = Variovorax paradoxus (= **Alcaligenes** paradoxus)

_____

US-PAT-NO: 5939300

DOCUMENT-IDENTIFIER: US 5939300 A

TITLE: Catalases

DATE-ISSUED: August 17, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Robertson; Dan E.	Haddonfield	NJ	N/A	N/A
Sanyal; Indrajit	Maple Shade	NJ	N/A	N/A
Adhikary; Robert S.	Cherry Hill	NJ	N/A	N/A

APPL-NO: 08/ 674887

DATE FILED: July 3, 1996

US-CL-CURRENT: 435/192, 435/189 , 435/252.3 , 435/320.1 , 435/440 , 536/23.1 , 536/23.2

ABSTRACT:

Catalase enzymes derived from bacteria from the genera **Alcaligenes (Deleya) and Microscilla** are disclosed. The enzymes are produced from native or recombinant host cells and can be utilized to destroy or detect hydrogen peroxide, e.g., in production of glyoxylic acid and in glucose sensors, and in processes where hydrogen peroxide is used as a bleaching or antibacterial agent, e.g. in contact lens cleaning, in bleaching steps in pulp and paper preparation and in the pasteurization of dairy products.

12 Claims, 2 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 8

---------- KWIC ---------

Abstract Text - ABTX (1):

Catalase enzymes derived from bacteria from the genera **Alcaligenes (Deleya) and Microscilla** are disclosed. The enzymes are produced from native or recombinant host cells and can be utilized to destroy or detect hydrogen peroxide, e.g., in production of glyoxylic acid and in glucose sensors, and in processes where hydrogen peroxide is used as a bleaching or antibacterial agent, e.g. in contact lens cleaning, in bleaching steps in pulp and paper preparation and in the pasteurization of dairy products.

Drawing Description Text - DRTX (3):

FIGS. 1A-1D show the full-length DNA sequence SEQ ID NO: 5 and the corresponding deduced amino acid sequence SEQ ID NO: 6 for **Alcaligenes (Deleya) aquamarinus Catalase**--64CA2.

Drawing Description Text - DRTX (4):

FIGS. 2A-2D show the full-length DNA sequence SEQ ID NO: 7 and the corresponding deduced amino acid sequence SEQ ID NO: 8 for **Microscilla furvescens Catalase** 53CA 1.

Detailed Description Text - DETX (19):

With respect to **Alcaligenes** (Delaya) **aquamarinus,** the protein with the closest amino acid sequence identity of which the inventors are currently aware is the **Microscilla furvescens catalase** (59.5% protein identity; 60% DNA identity). The next closest is a Mycobacterium tuberculosis **catalase** (KatG), with a 54% protein identity.

Detailed Description Text - DETX (20):

With respect to **Microscilla furvescens,** the protein with the closest amino acid sequence identity of which the inventors are currently aware is **catalase** I of Bacillus stearothermophilis, which has a 69% amino acid identity.

Detailed Description Text - DETX (73):

An E. coli **catalase** negative host strain CAT500 was infected with a phage solution containing sheared pieces of DNA from **Alcaligenes (Deleya) aquamarinus** in pBluescript plasmid and plated on agar containing LB with ampicillin (100 .mu.g/mL), methicillin (80 .mu.g/mL) and kanamycin (100 .mu.g/mL) according to the method of Hay and Short (Hay, B. and Short, J., J. Strategies, 5:16, 1992). The resulting colonies were picked with sterile toothpicks and used to singly inoculate each of the wells of 96-well microtiter plates. The wells contained 250 .mu.L of SOB media with 100 .mu.g/mL ampicillin, 80 .mu.g/mL methicillin, and (SOB Amp/Meth/Kan). The cells were grown overnight at 37.degree. C. without shaking. This constituted generation of the "SourceGeneBank"; each well of the Source GeneBank thus contained a stock culture of E. coli cells, each of which contained a pBluescript plasmid with a unique DNA insert. Same protocol was adapted for screening **catalase from Microscilla furvescens**.

Detailed Description Paragraph Table - DETL (1):

Alcaligenes (Deleya) aquamarinus catalse: (pQET vector) 5' Primer
CCGAGAATTCATTAAAGAGGAGAAATTAACTATGAATAACGCATCCGCTGAC EcoRI SEQ ID NO: 1 3'
Primer CGGAAAGCTTTTACGACGCGACGTCGAAACG HindIII SEQ ID NO: 2

Microscilla furvescens catalase: (pQET vector) 5' Primer
CCGAGAATTCATTAAAGAGGAGAAATTAACTATGGAAAATCACAAACACTCA EcoRI SEQ ID NO: 3 3'
Primer CGAAGGTACCTTATTTCAGATCAAACCGGTC KpnI SEQ ID NO: 4

US-PAT-NO: 5902736

DOCUMENT-IDENTIFIER: US 5902736 A

TITLE: Process for the production of D-.alpha.-amino acids by hydrolysis of the corresponding N-carbamyl derivative

DATE-ISSUED: May 11, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Yamada; Hideaki	Kyoto	N/A	N/A	JP
Shimizu; Sakayu	Kyoto	N/A	N/A	JP
Ikenaka; Yasuhiro	Akashi	N/A	N/A	JP
Yajima; Kazuyoshi	Akashi	N/A	N/A	JP
Yamada; Yukio	Kakogawa	N/A	N/A	JP
Nanba; Hirokazu	Takasago	N/A	N/A	JP
Takano; Masayuki	Akashi	N/A	N/A	JP
Takahashi; Satomi	Kobe	N/A	N/A	JP

APPL-NO: 08/ 244657

DATE FILED: June 6, 1994

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
JP	4-265914	October 5, 1992

PCT-DATA:
APPL-NO: PCT/JP93/01408
DATE-FILED: October 1, 1993
PUB-NO: WO94/08030
PUB-DATE: Apr 14, 1994
371-DATE: Jun 6, 1994
102(E)-DATE:Jun 6, 1994

US-CL-CURRENT: 435/106, 435/280 , 435/874 , 435/911

ABSTRACT:

In a process for the production of a D-.alpha.-amino acid, in which an N-carbamyl-D-.alpha.-amino acid corresponding to the general formula: ##STR1## wherein R represents phenyl, hydroxy-substituted phenyl, substituted or unsubstituted alkyl, or thienyl, is converted by a microbial enzyme in an aqueous medium to a D-.alpha.-amino acid corresponding to the general formula: ##STR2## wherein R is the same as defined above, decarbamylase produced by a microorganism of the genus Comamonas, Blastobacter, Alcaligenes, Sporosarcina, Rhizobium, Bradyrhizobium or Arthrobacter is used as the enzyme converting the N-carbamyl-D-.alpha.-amino acid to the D-.alpha.-amino acid.

The conversion of the N-carbamyl-D-.alpha.-amino acids to the D-.alpha.-amino acids is carried out in a neutral to alkaline pH range.

13 Claims, 12 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 11

---------- KWIC ---------

Detailed Description Paragraph Table - DETL (3):

Alcaligenes sp. E 21
(a) Morphology Bacillus, Gram-variable Spore: - Mobility: + Colony: buff, semi-translucent, round, regular, entire, low convex, shiny, smooth; diameter 1 mm (48 hr) Growth (48 hr) at: 37.degree. C. + 41.degree. C. - 45.degree. C. - (b) Physiological activities **Catalase** + Oxidase - Glucose fermentation -

US-PAT-NO: 5827718

DOCUMENT-IDENTIFIER: US 5827718 A

TITLE: Lipase, microorganisms producing the lipase, method of producing the lipase and use of the lipase

DATE-ISSUED: October 27, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Ishida; Reiko	Yokohama	N/A	N/A	JP
Suzuki; Masahiro	Chiba	N/A	N/A	JP
Kotsuka; Takashi	Chiba	N/A	N/A	JP
Sakimoto; Kazunori	Chiba	N/A	N/A	JP

APPL-NO: 08/ 605015

DATE FILED: March 14, 1996

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
JP	5-214506	August 30, 1993

PCT-DATA:
APPL-NO: PCT/JP94/01416
DATE-FILED: August 26, 1994
PUB-NO: WO95/06720
PUB-DATE: Mar 9, 1995
371-DATE: Mar 14, 1996
102(E)-DATE:Mar 14, 1996

US-CL-CURRENT: 510/306, 424/260.1 , 424/94.1 , 435/183 , 435/188 , 435/196 , 435/264 , 435/874 , 510/374 , 530/350 , 530/825

ABSTRACT:

Bacteria belonging to the genus Pseudomonas, alkaline lipase produced by the bacteria and having the following properties, a method of producing the lipase, and detergent compositions containing the lipase:

(1) Operating pH and optimum pH

an operating pH is in the range of from 3.5 to 12 and an optimum pH is in the range of from 10 to 11 using a triolein emulsion as a substrate;

(2) Operating temperature and optimum temperature

an operating temperature is in the range of from 30.degree. C. to 80.degree. C. and an optimum temperature is in the range of from 55.degree.

C. to 65.degree. C. using the triolein emulsion as a substrate;

(3) Molecular weight

a molecular weight measured by SDS-polyacrylamide gel electrophoresis is 31,000.+-.2,000; and

(4) Isoelectric point

an Isoelectric point measured by isoelectric point polyacrylamide gel electrophoresis is 5.2.+-.0.5.

The lipase has high stability against detergent components such as surfactants, protease, etc. and can be blended together with protease with detergents. Further, the lipase suffers less inhibition of its activity, so that it can enhance the washing power of detergents containing it.

7 Claims, 4 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 4

---------- KWIC ----------

Detailed Description Paragraph Table - DETL (1):

TABLE 1

Pseudomonas	Pseudomonas	SD705 Strain
Morphology	Rods	Rods
(2) Gram stain	Negative	Negative
Negative
(3) Spore	None	None
None
(4) Mobility	Yes	Yes
Yes
(5) Flagella	Polar monotrichous	Polar monotrichous
Polar monotrichous
(6) Oxidase	Positive	Positive
Positive
(7) **Catalase**	Positive	Positive
Positive
(8) Production of fluorescent pigment	No	No
No
(9) Accumulation of PHB	Negative	Negative
d
(10) Arginine dihydrolase	Negative	Positive
d
(11) Growth at 41.degree. C.	Possible	Possible
Possible
(12) Denitrification	Negative	Positive
d
(13) Gelatin Liquefaction	Negative	d
d
(14) Decomposition of starch	Negative	Negative
Negative
(15) Assimilability of glucose	Negative	Negative
Negative
(16) Assimilability of L-aspartate	Negative	Negative
Negative
(17) Assimilability of L-glutamate	Positive	Positive
Positive
(18) Assimilability of D-gluconate	Negative	Negative
d
(19) Assimilability of L-histidine	Negative	d
d
(20) Assimilability of ethanolamine	Negative	Negative
Positive
(21) Assimilability of n-butanol	Positive	d
Positive
(22) Assimilability of isobutanol	Negative	d
Negative
(23) Assimilability of glycerol	Negative	Negative
d
(24) Assimilability of sorbitol	Negative	Negative
d
(25) Assimilability of itaconic acid	Negative	Negative
d
(26) Assimilability of mesaconic acid	Negative	Negative
Positive
(27) Assimilability of .beta.-hydroxybutyrate	Positive	Negative
Positive
(28) Assimilability of betaine	Negative	Negative
Positive
(29) Assimilability of fructose	Negative	

(1)

Negative Positive (30) Assimilability of glycerate Negative Negative Positive (31) GC content (%) 60 64-68 62-64

d:

11-89% of the strains belonging to the species concerned is positive.

US-PAT-NO: 5780290

DOCUMENT-IDENTIFIER: US 5780290 A

TITLE: Non-polluting compositions to degrade hydrocarbons and microorganisms for use thereof

DATE-ISSUED: July 14, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Rosenberg; Eugene	Tel-Aviv	N/A	N/A	IL
Ron; Eliora Z.	Tel-Aviv	N/A	N/A	IL

APPL-NO: 08/ 461754

DATE FILED: June 5, 1995

PARENT-CASE:

This is a continuation of application Ser. No. 07/994,493, now abandoned, filed on Dec. 21, 1992.

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
IL	100485	December 24, 1991
IL	103842	November 23, 1992

US-CL-CURRENT: 435/243, 210/601 , 210/922 , 435/244 , 435/252.1 , 435/262.5 , 435/281 , 435/821 , 435/826 , 435/834

ABSTRACT:

The present invention relates to compositions containing bacteria capable of degrading hydrocarbons, such as petroleum or petroleum products and methods for their use.

3 Claims, 4 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 2

---------- KWIC ---------

Detailed Description Paragraph Table - DETL (5):

TABLE 3 _____ Characterization of strains

from CO-UF-1 medium Strain Property ER-RL3 ER-RL4 ER-RT
_____ Colony of marine agar diameter 2 mm
<1 mm 1-2 mm color white white yellowish Bacterial shape rod rod rod
Dimensions of cells (.mu.m) from marine agar (16 h) 0.3/1.5 0.6/1.2 0.6/1.0
from broth on oil (72 h) 0.5/1.6 0.5/2.2 0.44/1.1 Motility + + + Flagellar
arrangement from marine agar (16 h) peritrichal polar none from broth on
oil (72 h) none polar none Growth temperature, .degree.C. 4.degree. C. (100
h) - - - 20.degree. C.-25.degree. C. (24 h) + + + 37.degree. C. (24 h) + +
+ 41.degree. C. (100 h) - - - NaCl (6%) tolerance + + + NaCl requirements
for growth - + + Lipase + + + Oxidase + + + **Catalase** + + + Starch
hydrolysis - + + Urease - - - Plasmids - 2 > 60 kb 2 > 60 kb 1 3 kb
Antibiotic sensitivity ampicillin S S S tetracycline R R R penicillin G S S
R erythromycin S S S nalidixic acid S R R Utilization of carbon source
decane + + + n-hexane (vapour) + + - toluene - - - xylene + - -
naphthalene - - - hexadecane + + + tetradecane + ++ - glucose + - + acetate
+ + + lactate + + + succinate + + + citrate - + + ethanol - + + maltose +
+ + lactose - - - starch + + - crude oil + + + solar + + + iso-octane + +
- _____ Classification: ERRL4
Pseudomonadaceae genus Pseudomonas. ERRL3 Pseudomonas **alcaligenes or
Alcaligenes** (has several degenerate peritrichous flagella) ERRT
Pseudomonadaceae genus Gluconobacter

US-PAT-NO: 5760236

DOCUMENT-IDENTIFIER: US 5760236 A

TITLE: Di and trisubstituted pyridines

DATE-ISSUED: June 2, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Kiener; Andreas	Visp	N/A	N/A	CH
Roduit; Jean-Paul	Grone	N/A	N/A	CH
Wellig; Alain	Ried-Morel	N/A	N/A	CH

APPL-NO: 08/ 561230

DATE FILED: November 21, 1995

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
CH	3537/94	November 25, 1994
CH	3538/94	November 25, 1994

US-CL-CURRENT: 546/291, 544/238 , 546/284.4 , 546/298 , 546/301 , 546/315 , 546/336 , 546/341

ABSTRACT:

Substituted pyridines of the general formula: ##STR1## wherein R.sup.1 is hydroxyl or chlorine, and a) X is hydrogen or chlorine, R.sup.2 and R.sup.3 together are .dbd.O, R.sup.4 is a group of the formula --OR.sup.5 and R.sup.5 is hydrogen, C.sub.1 -C.sub.4 -alkyl or benzyl, or

b) X is hydrogen and R.sup.2, R.sup.3 and R.sup.4 together are .dbd.N--NH--, or

c) X and R.sup.2 each is hydrogen and R.sup.3 and R.sup.4 together are --O--, or

d) X and R.sup.2 each is hydrogen, R.sup.3 is hydroxyl and R.sup.4 is amino or hydroxyl.

The compounds are obtained by subjecting nicotine to microbiological oxidation to give 5-succinoyl-2-pyridone, followed by chemical reactions. The compounds are suitable as intermediates for the preparation of pharmaceutically active compounds.

3 Claims, 0 Drawing figures

Exemplary Claim Number: 1

---------- KWIC ---------

Brief Summary Paragraph Table - BSTL (4):

TABLE 4 _____ Identification of strain DSM 8244 (DSM ID 93-204) Variovorax paradoxus (= **Alcaligenes** paradoxus) _____ Strain Characteristics Cell shape Rods Width in .mu.m 0.8-1.0 Length in .mu.m 1.5-3.5 Motility + Gram reaction - Lysis by 3% KOH + Aminopeptidase (Cerny) + Spores - Oxidase + **Catalase** + Growth anaerobic - 37.degree./41.degree. C. -/- pH 5.7 - MacConkey agar + SS agar - cetrimide agar - Pigments non-diffusible - diffusible - fluorescent - pyocyanin - Acid from (OF test) glucose aerobic w? glucose anaerobic - glucose aerobic with alkaline reaction - Gas from glucose - Acid from (ASS) D-glucose + D-fructose + D-xylose + ONPG/PNPG - ADH - VP - Indole - NO.sub.2 from NO.sub.3 - Denitrification - Phenylalanine deaminase - Levan from sucrose - Lecithinase - Urease - Hydrolysis of starch - gelatine - casein - DNA - Tween 80 + aesculin - Tyrosine metabolization + Substrate utilization acetate + adipate + caprate + citrate + glycolate + levulinate + malate + malonate - phenylacetate + L-arabinose + D-fructose + D-glucose + D-mannose + maltose - D-xylose + mannitol + gluconate + 2-ketogluconate + N-acetylglucosamine + L-serine - Result: Strain DSM 8244 = Variovorax paradoxus (= **Alcaligenes** paradoxus)

_____

US-PAT-NO: 5739015

DOCUMENT-IDENTIFIER: US 5739015 A

TITLE: Biotransformation of chitin to chitosan

DATE-ISSUED: April 14, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Srinivasan; Vadake R.	Baton Rouge	LA	N/A	N/A

APPL-NO: 08/ 815282

DATE FILED: March 10, 1997

US-CL-CURRENT: 435/101, 127/37 , 435/252.1

ABSTRACT:

An Alcaligenes bacterium has been isolated from municipal sewage that contains a chitin deacetylase that can deacetylate chitin to chitosan.

4 Claims, 0 Drawing figures

Exemplary Claim Number: 1

--------- KWIC ---------

Detailed Description Text - DETX (7):

The organisms were characterized by generally accepted biochemical tests. The three different positive cultures originated from the same bacterium. The organism was tentatively identified as belonging to the genus **Alcaligenes** using Bergey's Manual of Determinative Microbiology, William & Wilkins (1974). The organism is a motile, Gram-negative rod about 1 to 1.5.mu. in length and 0.5.mu. in diameter. The organism tested positive for the presence of **catalase,** oxidase, gelatinase, and .beta.-galactosidase. It tested negative for caseinase and amylase. The bacterium was able to metabolize nitrate, but not indole and urea. It did not ferment glucose, lactose, or sucrose, and did not oxidize glucose.

US-PAT-NO: 5611900

DOCUMENT-IDENTIFIER: US 5611900 A

TITLE: Microbiosensor used in-situ

DATE-ISSUED: March 18, 1997

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Worden; R. Mark	Holt	MI	N/A	N/A
Emerson; David	East Lansing	MI	N/A	N/A
Peteu; Serban F.	East Lansing	MI	N/A	N/A

APPL-NO: 08/ 504687

DATE FILED: July 20, 1995

US-CL-CURRENT: 204/403.1, 204/403.11 , 204/415 , 204/435 , 435/287.5 , 435/287.9 , 435/817

ABSTRACT:

The present invention is a novel, ultra-small tip, internal referenced, amperometric microbiosensor that uses an immobilized biological interface to measure the concentration of an analyte in a specimen. It consists of a casing that narrows to an aperture having a diameter at the tip no greater than 4 .mu.m; enclosed within the casing a reference electrode and a working electrode both immersed in electrolyte; within the aperture, an inner polymer film, an immobilized biological interface layer, and an outer specimen-compatible, non-virulent polymer film. Another important feature of the present invention is that the microbiosensor can readily be encased in a durable protective sheath. The microbiosensor is especially useful in situ for specimens that cannot be mixed, such as in situ compounds in unmixed fluid, or semi-solid specimens. The microbiosensor provides 90% response time less than 5 seconds and typically about 1 second, less than 5% change in output current due to changes in the stirring rate, and the ability to measure in viscous, semi-solid or porous-solid specimens with a spatial resolution as small as 30 .mu.m.

15 Claims, 24 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 20

---------- KWIC ---------

Detailed Description Text - DETX (23):

The Glucose oxidase EC 1.1.3.4., from Aspergillus niger, grade VII-S, with the activity off 10,000-20,000 units/mg solid is purchased from Sigma Chemical Co., St. Louis, Mo. The enzymes used, including the .beta.-galactosidase EC 3.2.1.23, from Escherichia coli grade VI with 320 units/mg solid, the Galactose oxidase EC 1.1.3.9. from Dactylium dendroides, and the **catalase** EC 1.11.1.6 from bovine liver 41,000 units/mg protein, are from Sigma Chemical. The Choline oxidase EC 1.1.3.17. from **Alcaligenes** species with 13-16 units/mg solid is from ICN Biomedicals, Aurora, Ohio.

US-PAT-NO: 5610062

DOCUMENT-IDENTIFIER: US 5610062 A

TITLE: Dispersant solutions for dispersing hydrocarbons

DATE-ISSUED: March 11, 1997

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Tyndall; Richard L.	Clinton	TN	N/A	N/A

APPL-NO: 08/ 444455

DATE FILED: May 19, 1995

PARENT-CASE:

CROSS REFERENCE TO RELATED APPLICATIONS

This application is a divisional application of application Ser. No. 08/388,862 filed on Feb. 15, 1995, issued as U.S. Pat. No. 5,518,919 which is a divisional application of application Ser. No. 08/203,452 filed on Feb. 28, 1994, issued as U.S. Pat. No. 5,420,035, on May 30, 1995, which is a is a divisional application of application Ser. No. 08/011,841 filed on Feb. 1, 1993, issued as U.S. Pat. No. 5,314,821 on May 24, 1994, which is a continuation of application Ser. No. 07/693,998, filed Apr. 26, 1991, abandoned.

US-CL-CURRENT: 435/252.4, 405/264 , 435/253.3 , 435/262.5 , 435/264 , 516/17 , 516/DIG.2

ABSTRACT:

A dispersant solution includes a hydrocarbon dispersing solution derived from a bacterium from ATCC 75527, ATCC 75529, or ATCC 55638.

3 Claims, 0 Drawing figures

Exemplary Claim Number: 1

---------- KWIC ---------

Detailed Description Text - DETX (26):

Isolate 13: Family uncertain), Genus **Alcaligenes,** Species (unknown): Gram negative rod, 0.5-1.5 um. Oxidase positive, **catalase** positive, motile, non sporulating, TSI (K/-). Colony morphology on Tryptic Soy Agar media--opaque,

entire, dry, off-white with a musty odor. Growth on Mueller-Hinton agar is sparse with small colonies that are translucent, entire and pale yellow. On BCYE medium the colonies are small, entire, pale-yellow with a musty odor. Aerobic--does not grow in methane atmosphere as sole carbon source. Can use the following carbon sources for growth and metabolism: tween 40, tween 80, L-arabinose, psicose, D-fructose, methyl pyruvate, mono-methyl succinate, acetic, glueohio, formic, citric, lactic, valerie, propionic and succinic acids, glycerol, serine, leucine, histidine and alanine. ONPG, VP, nitrate reduction and gelatine negative. Does not possess arginine dihydrolase, lysine decarboxylase, urease, tryptophane deaminase or ornithine decarboxylase. Hydrogen sulfide is not produced. Citrate positive. Optimum temperature and pH for growth are 25.degree. C. and 7.5, respectively.

US-PAT-NO: 5578487

DOCUMENT-IDENTIFIER: US 5578487 A

TITLE: Methods for dispersing hydrocarbons using autoclaved bacteria

DATE-ISSUED: November 26, 1996

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Tyndall; Richard L.	Clinton	TN	N/A	N/A

APPL-NO: 08/ 444460

DATE FILED: May 19, 1995

PARENT-CASE:

CROSS REFERENCE TO RELATED APPLICATIONS

This application is a divisional application of application Ser. No. 08/388,862 Filed on Feb. 15, 1995, which is a divisional application of application Ser. No. 08/203,452 Filed on Feb. 28, 1994, issued as U.S. Pat. No. 5,420,035, on May 30, 1995, which is a is a divisional application of application Ser. No. 08/011,841 Filed on Feb. 1, 1993, issued as U.S. Pat. No. 5,314,821 on May 24, 1994, which is a continuation of application Ser. No. 07/693,998, filed Apr. 26, 1991, abandoned.

US-CL-CURRENT: 435/262.5, 405/264 , 435/252.1 , 435/253.3 , 435/281 , 588/203

ABSTRACT:

A method of dispersing a hydrocarbon includes the steps: providing a bacterium selected from the following group: ATCC 85527, ATCC 75529, and ATCC 55638, a mutant of any one of these bacteria possessing all the identifying characteristics of any one of these bacteria, and mixtures thereof; autoclaving the bacterium to derive a dispersant solution therefrom; and contacting the dispersant solution with a hydrocarbon to disperse the hydrocarbon.

Moreover, a method for preparing a dispersant solution includes the following steps: providing a bacterium selected from the following group: ATCC 75527, ATCC 75529, and ATCC 55638, a mutant of any one of these bacteria possessing all the identifying characteristics of any one of these bacteria, and mixtures thereof; and autoclaving the bacterium to derive a dispersant solution therefrom.

3 Claims, 0 Drawing figures

Exemplary Claim Number: 1

---------- KWIC ---------

Detailed Description Text - DETX (27):

Isolate 13: Family (uncertain), Genus **Alcaligenes,** Species (unknown): Gram negative rod, 0.5-1.5 .mu.m. Oxidase positive, **catalase** positive, motile, non sporulating, TSI (K/-). Colony morphology on Tryptic Soy Agar media--opaque, entire, dry, off-white with a musty odor. Growth on Mueller-Hinton agar is sparse with small colonies that are translucent, entire and pale yellow. On BCYE medium the colonies are small, entire, pale-yellow with a musty odor. Aerobic--does not grow in methane atmosphere as sole carbon source. Can use the following carbon sources for growth and metabolism: tween 40, tween 80, L-arabinose, psicose, D-fructose, methyl pyruvate, mono-methyl succinate, acetic, gluconic, formic, citric, lactic, valeric, propionic and succinic acids, glycerol, serine, leucine, histidine and alanine. ONPG, VP, nitrate reduction and gelatine negative. Does not possess arginine dihydrolase, lysine decarboxylase, urease, tryptophane deaminase or ornithine decarboxylase. Hydrogen sulfide is not produced. Citrate positive. Optimum temperature and pH for growth are 25.degree. C. and 7.5, respectively.

US-PAT-NO: 5578474

DOCUMENT-IDENTIFIER: US 5578474 A

TITLE: Process for culturing recombinant microorganisms

DATE-ISSUED: November 26, 1996

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Focht; Dennis D.	Riverside	CA	N/A	N/A
Krockel; Lothar P.	Thurnau	N/A	N/A	DE

APPL-NO: 08/ 259283

DATE FILED: June 13, 1994

PARENT-CASE:

This is a continuation of Ser. No. 07/927,793 filed Aug. 10, 1992, now abandoned, which in turn is a continuation of Ser. No. 07/581,247 filed Sep. 7, 1990, now abandoned, which in turn a continuation-in-part of Ser. No. 07/074,847 filed Jul. 17, 1987, now abandoned.

US-CL-CURRENT: 435/471, 435/252.3 , 435/252.34 , 435/479 , 435/823 , 435/829 , 435/830 , 435/874

ABSTRACT:

A recombinant microorganism strain having a desired metabolic property is produced by a process which utilizes a multiple chemostat system.

7 Claims, 4 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 4

---------- KWIC ---------

Detailed Description Text - DETX (22):

All systems remained stable for 3 more weeks, showing no increase or decrease in chloride concentration or turbidity. After that time, a 50-ml sample was drawn out of the waste container which combined the overflows of all three chlorobenzene chemostats. The bacteria were pelleted and resuspended in 5 ml saline. From this cell suspension, 0.1 ml aliquots were spread-plated on mineral salts agar plates, which were subsequently incubated in a chlorobenzene

saturated atmosphere. After 1 week of incubation, 50% of the plates showed single colonies (about 10 colonies per plate) which were restreaked on fresh plates containing bromothymol blue to confirm HCl production due to growth on chlorobenzene. Positive colonies were checked on LB and King's B for purity and origin P. putida fluoresces on King's B in contrast to P. **alcaligenes**. All isolates which grew on chlorobenzene fluoresced on King's B medium. One of these isolates was named P. putida CB1-9 and selected for closer investigation. Pseudomonas putida CB1-9 ATCC No. 53645, deposited at American Type Culture Collection, Rockville, Md., was found to have the following taxonomic and morphological characteristics. The organism is a gram negative rod that is **catalase**-positive, cytochrome oxidase-positive, motile polar flagella, does not reduce nitrates, grows only aerobically, produces fluorescent pigment on King's B, not King's A agar, hydrolyzes arganine, does not hydrolyze gelatin and produces neither acid nor gas from glucose.

US-PAT-NO: 5559029

DOCUMENT-IDENTIFIER: US 5559029 A

TITLE: Method of dispersing a hydrocarbon using bacteria

DATE-ISSUED: September 24, 1996

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Tyndall; Richard L.	Clinton	TN	N/A	N/A

APPL-NO: 08/ 445150

DATE FILED: May 19, 1995

PARENT-CASE:

CROSS REFERENCE TO RELATED APPLICATIONS

This application is a divisional application of appplication Ser. No. 08/388,862, U.S. Pat. No. 5,518,919, Filed on Feb. 15, 1995, which is a divisional application of application Ser. No. 08/203,452, U.S. Pat. No. 5,420,035, Filed on Feb. 28, 1994, which is a divisional application of application Ser. No. 08/011,841 Filed on Feb. 1, 1993, issued as U.S. Pat. No. 5,314,821 on May 24, 1994, which is a continuation of application Ser. No. 07/693,998, filed Apr. 26, 1991, abandoned.

US-CL-CURRENT: 435/262, 435/262.5 , 435/264 , 435/821 , 435/828 , 435/831 , 435/832 , 435/874 , 435/910 , 435/947

ABSTRACT:

New protozoan derived microbial consortia and method for their isolation are provided. Consortia and bacteria isolated therefrom are useful for treating wastes such as trichloroethylene and trinitrotoluene. Consortia, bacteria isolated therefrom, and dispersants isolated therefrom are useful for dispersing hydrocarbons such as oil, creosote, wax, and grease.

2 Claims, 0 Drawing figures

Exemplary Claim Number: 1

---------- KWIC ---------

Detailed Description Text - DETX (26):

Isolate 13: Family (uncertain), Genus **Alcaligenes,** Species (unknown): Gram

negative rod, 0.5-1.5 um. Oxidase positive, **catalase** positive, motile, non sporulating, TSI (K/-). Colony morphology on Tryptie Soy Agar media--opaque, entire, dry, off-white with a musty odor. Growth on Mueller-Hinton agar is sparse with small colonies that are translucent, entire and pale yellow. On BCYE medium the colonies are small, entire, pale-yellow with a musty odor. Aerobic--does not grow in methane atmosphere as sole carbon source. Can use the following carbon sources for growth and metabolism: tween 40, tween 80, L-arabinose, psicose, D-fructose, methyl pyruvate. mono-methyl succinate, acetic, gluconic, formic, citric, lactic, valeric, propionic and succinic acids, glycerol, serine, leucine, histidine and alanine. ONPG, VP, nitrate reduction and gelatine negative. Does not possess arginine dihydrolase, lysine decarboxylase, urease, tryptophane deaminase or ornithine decarboxylase. Hydrogen sulfide is not produced. Citrate positive. Optimum temperature and pH for growth are 25.degree. C. and 7.5, respectively.

US-PAT-NO: 5518919

DOCUMENT-IDENTIFIER: US 5518919 A

TITLE: Amoebae/bacteria consortia and uses for degrading wastes and contaminants

DATE-ISSUED: May 21, 1996

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Tyndall; Richard L.	Clinton	TN	N/A	N/A

APPL-NO: 08/ 388862

DATE FILED: February 15, 1995

PARENT-CASE:

CROSS REFERENCE TO RELATED APPLICATIONS

This application is a divisional application of application Ser. No. 08/203,452 Filed on Feb. 28, 1994 now U.S. Pat. No. 5,420,035, which is a divisional application of application Ser. No. 08/011,841 Filed on Feb. 1, 1993, issued as U.S. Pat. No. 5,314,821 on May 24, 1994, which is a continuation of application Ser. No. 07/693,998, filed Apr. 26, 1991, abandoned.

US-CL-CURRENT: 435/262.5, 435/258.1 , 435/262 , 588/202 , 588/203

ABSTRACT:

A method of altering trinitrotoluene includes the steps of: providing an amoeba/bacteria consortium, particularly ATCC 40908 or a mutant thereof possessing all the identifying characteristics thereof; and contacting the consortium with trinitrotoluene to alter the trinitrotoluene.

1 Claims, 0 Drawing figures

Exemplary Claim Number: 1

---------- KWIC ---------

Detailed Description Text - DETX (26):

Isolate 13: Family (uncertain), Genus **Alcaligenes,** Species (unknown): Gram negative rod, 0.5-1.5 um. Oxidase positive, **catalase** positive, motile, non sporulating, TSI (K/-). Colony morphology on Tryptic Soy Agar media--opaque,

entire, dry, off-white with a musty odor. Growth on Mueller-Hinton agar is sparse with small colonies that are translucent, entire and pale yellow. On BCYE medium the colonies are small, entire, pale-yellow with a musty odor. Aerobic--does not grow in methane atmosphere as sole carbon source. Can use the following carbon sources for growth and metabolism: tween 40, tween 80, L-arabinose, psicose, D-fructose, methyl pyruvate, mono-methyl succinate, acetic, gluconic, formic, citric, lactic, valeric, propionic and succinic acids, glycerol, serine, leucine, histidine and alaninc. ONPG, VP, nitrate reduction and gelatine negative. Does not possess arginine dihydrolase, lysine decarboxylase, urease, tryptophane deaminase or ornithine decarboxylase. Hydrogen sulfide is not produced. Citrate positive. Optimum temperature and pH for growth are 25.degree. C. and 7.5, respectively.

US-PAT-NO: 5420035

DOCUMENT-IDENTIFIER: US 5420035 A

TITLE: Bacteria isolated from amoebae/bacteria consortium

DATE-ISSUED: May 30, 1995

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Tyndall; Richard L.	Clinton	TN	N/A	N/A

APPL-NO: 08/ 203452

DATE FILED: February 28, 1994

PARENT-CASE:

CROSS REFERENCE TO RELATED APPLICATIONS

This application divisional application of application Ser. No. 08/011,841, filed on Feb. 1, 1993, issued as U.S. Pat. No. 5,314,821 on May 24, 1994, which is a continuation of application Ser. No. 07/693,998, filed Apr. 26, 1991, abandoned.

US-CL-CURRENT: 435/252.1, 435/252.4 , 435/253.3 , 435/258.1

ABSTRACT:

New protozoan derived microbial consortia and method for their isolation are provided. Consortia and bacteria isolated therefrom are useful for treating wastes such as trichloroethylene and trinitrotoluene. Consortia, bacteria isolated therefrom, and dispersants isolated therefrom are useful for dispersing hydrocarbons such as oil, creosote, wax, and grease.

1 Claims, 0 Drawing figures

Exemplary Claim Number: 1

---------- KWIC ---------

Detailed Description Text - DETX (38):

Isolate 13: Family (uncertain), Genus **Alcaligenes,** Species (unknown): Gram negative rod, 0.5-1.5 .mu.m. Oxidase positive, **catalase** positive, motile, non sporulating, TSI (K/-). Colony morphology on Tryptic Soy Agar media--opaque, entire, dry, off-white with a musty odor. Growth on Mueller-Hinton agar is sparse with small colonies that are translucent, entire and pale yellow. On

BCYE medium the colonies are small, entire, pale-yellow with a musty odor. Aerobic--does not grow in methane atmosphere as sole carbon source. Can use the following carbon sources for growth and metabolism: tween 40, tween 80, L-arabinose, psicose, D-fructose, methyl pyruvate, mono-methyl succinate, acetic, gluconic, formic, citric, lactic, valerie, propionic and succinie acids, glycerol, serine, leucine, histidine and alanine. ONPG, VP, nitrate reduction and gelatine negative. Does not possess arginine dihydrolase, lysine decarboxylase, urease, tryptophane deaminase or ornithine decarboxylase. Hydrogen sulfide is not produced. Citrate positive. Optimum temperature and pH for growth are 25.degree. C. and 7.5, respectively.

US-PAT-NO: 5346817

DOCUMENT-IDENTIFIER: US 5346817 A

TITLE: Method for producing a microbial polyester

DATE-ISSUED: September 13, 1994

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Akiyama; Minoru	Yokohama	N/A	N/A	JP
Doi; Yoshiharu	Yokohama	N/A	N/A	JP

APPL-NO: 07/ 903021

DATE FILED: June 23, 1992

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
JP	3-177721	June 24, 1991
JP	3-254199	September 5, 1991

US-CL-CURRENT: 435/135, 435/829 , 528/361

ABSTRACT:

An improved method for producing a microbial polyester comprising 3-hydroxybutyrate monomer units is disclosed, in which a strain belonging to the genus Alcaligenes is cultured in a liquid medium containing a carbon source selected from specific long chain fatty acids and derivatives thereof. The produced microbial polyester is useful in plastics and polymers which are free from environmental pollution problems, and in implanting materials and drug carriers, recovery of which is not necessary.

7 Claims, 0 Drawing figures

Exemplary Claim Number: 1

---------- KWIC ---------

Brief Summary Paragraph Table - BSTL (3):

TABLE 3

Bacteriological Properties of Species Belonging to Genus **Alcaligenes**	AK 201	A. faecalis	A. dentrificans	A. eutrophus	A. paradoxus	A. latus
Utilization of carbon source	D-mannosse	-	-	-	-	+
	D-gluconic acid	-	-	+	+	+

+ acetic acid + + + + + - adipic acid + - + + + - Accumulation of PHB* + +
+ + + **Catalase** + + + + + + Urease + - - - + Hydrolysis of Tween 80 + - - -
- + Utilization of other carbon source lactose - - - - - - esculin - - - -
maltose - - - - - -

---

*poly(3-hydroxybutyrate)

US-PAT-NO: 5314821

DOCUMENT-IDENTIFIER: US 5314821 A

TITLE: Method of separating bacteria from free living amoebae

DATE-ISSUED: May 24, 1994

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Tyndall; Richard L.	Clinton	TN	N/A	N/A

APPL-NO: 08/ 011841

DATE FILED: February 1, 1993

PARENT-CASE:

CROSS REFERENCE TO RELATED APPLICATIONS

This application is a continuation of application Ser. No. 07/693,998, filed Apr. 26, 1991, abandoned.

US-CL-CURRENT: 435/252.1, 435/243 , 435/252.4 , 435/258.1

ABSTRACT:

New protozoan derived microbial consortia and method for their isolation are provided. Consortia and bacteria isolated therefrom are useful for treating wastes such as trichloroethylene and trinitrotoluene. Consortia, bacteria isolated therefrom, and dispersants isolated therefrom are useful for dispersing hydrocarbons such as oil, creosote, wax, and grease.

2 Claims, 0 Drawing figures

Exemplary Claim Number: 1

---------- KWIC ---------

Detailed Description Text - DETX (40):

Isolate 13: Family (uncertain), Genus **Alcaligenes,** Species (unknown): Gram negative rod, 0.5-1.5 um. Oxidase positive, **catalase** positive, motile, non sporulating, TSI (K/-). Colony morphology on Tryptic Soy Agar media-opaque, entire, dry, off-white with a musty odor. Growth on Mueller-Hinton agar is sparse with small colonies that are translucent, entire and pale yellow. On BCYE medium the colonies are small, entire, pale-yellow with a musty odor. Aerobic-does not grow in methane atmosphere as sole carbon source. Can use the

following carbon sources for growth and metabolism: tween 40, tween 80, L-arabinose, psicose, D-fructose, methyl pyruvate, mono-methyl succinate, acetic, gluconic, formic, citric, lactic, valeric, propionic and succinic acids, glycerol, serine, leucine, histidine and alanine. ONPG, VP, nitrate reduction and gelatine negative. Does not possess arginine dihydrolase, lysine decarboxylase, urease, tryptophane deaminase or ornithine decarboxylase. Hydrogen sulfide is not produced. Citrate positive. Optimum temperature and pH for growth are 25.degree. C. and 7.5, respectively.

US-PAT-NO: 5270203

DOCUMENT-IDENTIFIER: US 5270203 A

TITLE: Biologically pure culture of Alcaligenes faecalis DSM 6335

DATE-ISSUED: December 14, 1993

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Kiener; Andreas	Visp	N/A	N/A	CH

APPL-NO: 07/ 903765

DATE FILED: June 25, 1992

PARENT-CASE:

This is a divisional application of Ser. No. 07/850,801, filed on Mar. 13, 1992 pending.

US-CL-CURRENT: 435/252.1, 435/170 , 435/41

ABSTRACT:

The invention is a biologically pure culture of Alcaligenes faecalis DSM 6335. Furthermore, the culture or a mutant thereof, is capable of growing with 2-cyanopyridine as the sole carbon, nitrogen and energy source in order to produce 6-hydroxypicolinic acid. The specific reaction is the conversion of 2-cyanopyridine as the substrate into 6-hydroxypicolinic acid.

2 Claims, 0 Drawing figures

Exemplary Claim Number: 1

---------- KWIC ---------

Detailed Description Paragraph Table - DETL (1):

_____ cell shape width, micron 0.5 to 0.8 length, micron 1.0 to 2.0 mobility + flagella peritrichous gram reaction - lysis by 3 percent KOH + aminopeptidase (Cerny) + oxidase + **catalase** + growth anaerobic - 37.degree./40.degree. C. +/- pH 5.6 + MacConkey broth (agar) + pigments - nondiffusing - diffusing - fluorescent - pyocyanine - acid from (OF test) aerobic glucose - anaerobic glucose - aerobic xylose - gas from glucose - acid from ASA* glucose - fructose - xylose - ONPG - ADH - LDC - indole - VP - NO.sub.2 from NO.sub.3 - denitrification - rods

phenylalanine desaminase - levan from saccharose - lecithinase - urease - hydrolysis of starch - gelatin - casein - DNA - Tween 80 - aesculin - tyrosine catabolism - use of substrate acetate + adipate - azelate - caprate + citrate + glycolate + laevulinate - malate + malonate + mesaconate - phenylacetate + pimelate - sebacinate - D-tartrate - L-arabinose - fructose - glucose - mannose - maltose - xylose - ribose - mannitol - gluconate - 2-ketogloconate - N-acetylglucosamine - L-methionine + hydroxybenzoate - RESULT: Strain Kie 31 (DSM No. 6335) = **Alcaligenes** faecalis _____ *ASA = acetylsalicylic acid

US-PAT-NO: 5264361

DOCUMENT-IDENTIFIER: US 5264361 A

TITLE: Microbiological process for the production of 6-hydroxypicolinic acid

DATE-ISSUED: November 23, 1993

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Kiener; Andreas	Visp	N/A	N/A	CH

APPL-NO: 07/ 850801

DATE FILED: March 13, 1992

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
CH	812/91	March 18, 1991

US-CL-CURRENT: 435/252.1, 435/170 , 435/41 , 435/822

ABSTRACT:

A microbiological process for the production of 6-hydroxypicolinic acid starting from 2-cyanopyridine. For this process new microorganisms are used, which are capable of growing with 2-cyanopyridine as the sole carbon, nitrogen and energy source and of converting it as the substrate into 6-hydroxypicolinic acid.

3 Claims, 0 Drawing figures

Exemplary Claim Number: 1

--------- KWIC ---------

Detailed Description Paragraph Table - DETL (1):

_____ cell shape width, micron 0.5 to 0.8 length, micron 1.0 to 2.0 mobility + flagella peritrichous gram reaction - lysis by 3 percent KOH + aminopeptidase (Cerny) + oxidase + **catalase** + growth anaerobic - 37.degree./40.degree. C. +/- pH 5.6 + MacConkey broth (agar) + pigments - nondiffusing - diffusing - fluorescent - pyocyanine - acid from (OF test) aerobic glucose - anaerobic glucose - aerobic xylose - gas from glucose - acid from ASA* glucose - fructose - xylose - ONPG - ADH - LDC - indole - VP - NO.sub.2 from NO.sub.3 - denitrification - rods phenylalanine desaminase - levan from saccharose - lecithinase - urease -

hydrolysis of starch - gelatin - casein - DNA - Tween 80 - aesculin - tyrosine catabolism - use of substrate acetate + adipate - azelate - caprate + citrate + glycolate + laevulinate - malate + malonate + mesaconate - phenylacetate + pimelate - sebacinate - D-tartrate - L-arabinose - fructose - glucose - mannose - maltose - xylose - ribose - mannitol - gluconate - 2-ketogloconate - N-acetylglucosamine - L-methionine + hydroxybenzoate - RESULT: Strain Kie 31 (DSM No. 6335) = **Alcaligenes** faecalis _____ *ASA = acetylsalicylic acid

US-PAT-NO: 5246848

DOCUMENT-IDENTIFIER: US 5246848 A

TITLE: Process for providing enhanced yield and simplified isolation of hydrophobic enzymes from culture media

DATE-ISSUED: September 21, 1993

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Holmes; Paul E.	Hamden	CT	N/A	N/A

APPL-NO: 07/ 703317

DATE FILED: May 20, 1991

US-CL-CURRENT: 435/198, 435/253.3 , 435/874

ABSTRACT:

This invention is directed to a process for providing enhanced yield and simplified isolation of hydrophobic enzymes from a culture medium. The process comprises the steps of: (a) culturing a hydrophobic enzyme-secreting microorganism in an aqueous culture medium comprising a yield-enhancing effective amount of a nonionic surfactant having a cloud point of less than 40.degree. C. for a time sufficient to provide enhanced secretion of said enzyme from said microorganism, (b) removing said microorganism from said culture medium to provide a microorganism-free solution, (c) heating said microorganism-free solution to a temperature above said cloud point to cause phase separation of said culture medium into an aqueous phase, and a non-aqueous phase containing said nonionic surfactant and said yield-enhanced hydrophobic enzyme, and (d) isolating said non-aqueous phase containing said nonionic surfactant and said yield-enhanced hydrophobic enzyme.

3 Claims, 0 Drawing figures

Exemplary Claim Number: 1

---------- KWIC ---------

Detailed Description Paragraph Table - DETL (3):

TABLE III _____ Characteristics of P. **alcaligenes** Strain SD2 and Selected Lipase-Producing Strains of P. pseudoalicaligenes. (The CBS Strain Accession Numbers Correspond to Those Referenced in International Publication No. WO 87/00859) Comparison Strains Strain of Invention CBS CBS CBS CBS Characteristic SD2 467.85 468.85

471.85 473.85 _____ Cell shape rod rod rod rod rod Motility + + + + + Spores - - - - - Gram strain - - - - - Oxidase + + + + + Anaerobic glucose - - - - - Aerobic glucose - - - - - Aerobic maltose - - - - - Aerobic sucrose - - - - - Aerobic D-xylose - - - - + Arginine + + + - + dihydrolase Gelatin hydrolysis - - - - - Starch hydrolysis - - - - - NO.sub.3.sup.- .fwdarw. NO.sub.2.sup.- + + + + + NO.sub.2.sup.- .fwdarw. N.sub.2 + - - - - Citrate Utilization - + + + + **Catalase** + + + + + Growth at 41.degree. C. + + + + +

US-PAT-NO: 5227300

DOCUMENT-IDENTIFIER: US 5227300 A

TITLE: Identification, characterization and method of production of a novel microbial lipase

DATE-ISSUED: July 13, 1993

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Holmes; Paul E.	Hamden	CT	N/A	N/A
Kornacki; Jon A.	Wallingford	CT	N/A	N/A

APPL-NO: 07/ 966652

DATE FILED: October 23, 1992

PARENT-CASE:

This application is a continuation-in-part of patent application Ser. No. 07/749,767 filed Aug. 26, 1991, now U.S. Pat. No. 5,168,060 which is a continuation-in-part of patent application Ser. No. 07/324,062 filed Mar. 16, 1989, now U.S. Pat. No. 5,063,160.

US-CL-CURRENT: 435/198, 435/271

ABSTRACT:

A novel lipase from a newly-discovered strain of Pseudomonas alcaligenes microorganism having (i) an optimum pH for activity of about 10.+-.0.5; (ii) an optimum temperature for activity of about 45.degree. to 55.degree. C.; (iii) an optimum pH for stability of about 7.0.+-.0.5; (iv) a molecular weight as measured by SDS-PAGE of about 3.0.times.10.sup.4 ; and (v) chemical stability for at least a 60 day mean half-life in the presence of a 10 percent solution of polyoxyethylene (23) lauryl ether in 25 millimolar aqueous calcium chloride. Also claimed is a biologically pure culture of the microorganism, and a method for the production of the lipase. Also claimed is a lipase characterized by containing an N-terminal amino acid sequence which is Gly-Leu-Phe-Gly-Pro-Ser-Gly-Tyr-Thr-Lys-Thr-Lys-Tyr-Pro-Ile.

4 Claims, 2 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 2

---------- KWIC ---------

Detailed Description Paragraph Table - DETL (3):

TABLE III _____ Characteristics of P. **alcaligenes** Strain SD2 and Selected Lipase-Producing Strains of P. pseudoalcaligenes. (The CBS Strain Accession Numbers Correspond to Those Referenced in International Publication No. WO 87/00859) Strain of Comparison Strains Invention CBS CBS CBS CBS Characteristic SD2 467.85 468.85 471.85 473.85 _____ Cell shape rod rod rod rod rod Motility + + + + + Spores - - - - - Gram Strain - - - - - Oxidase + + + + + Anaerobic - - - - - glucose Aerobic - - - - - glucose Aerobic - - - - - maltose Aerobic - - - - - sucrose Aerobic - - - - + D-xylose Arginine + + + - + dihydrolase Gelatin - - - - - hydrolysis Starch - - - - - hydrolysis NO.sub.3 .fwdarw.NO.sub.2 + + + + + NO.sub.2 .fwdarw.N.sub.2 + - - - - Citrate - + + + + Utilization **Catalase** + + + + + Growth at + + + + + 41.degree. C. _____

US-PAT-NO: 5223416

DOCUMENT-IDENTIFIER: US 5223416 A

TITLE: Process for producing R(-)-mandelic acid and derivatives thereof

DATE-ISSUED: June 29, 1993

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Endo; Takakazu	Kanagawa	N/A	N/A	JP
Tamura; Koji	Kanagawa	N/A	N/A	JP

APPL-NO: 07/ 677175

DATE FILED: March 29, 1991

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
JP	2-80694	March 30, 1990
JP	2-214914	August 16, 1990
JP	2-214915	August 16, 1990

US-CL-CURRENT: 435/128, 435/130 , 435/146 , 435/280 , 435/822 , 435/829 , 435/839 , 435/840 , 435/872 , 435/874

ABSTRACT:

A process for the predominantly producing R(-)-mandelic acid or a derivative thereof which comprises subjecting (i) R,S-mandelonitrile or a derivative thereof, or (ii) a mixture of prussic acid and benzaldehyde or a derivative of benzaldehyde to the action of a microorganism selected from the group consisting of the genus Aureobacterium, Pseudomonas, Caseobacter, Alcaligenes, Acinetobacter, Brevibacterium, Nocardia, and Bacillus or treated cells thereof, which the microorganism is capable of stereospecifically hydrolyzing a nitrile group of the R,S-mandelonitrile or a derivative thereof, in a neutral or basic aqueous reaction system to produce the R(-)-mandelic acid.

10 Claims, 0 Drawing figures

Exemplary Claim Number: 1

---------- KWIC ---------

Brief Summary Paragraph Table - BSTL (1):

_____ Pseudomonas sp. BC13-2 and BC15-2

Strains: Shape: bacillus Gram staining: - Spore: +. Mobility: + Flagella polar Oxidase: + **Catalase**: + O-F test: O Caseobactor sp. BC4 and BC23 Strains: Shape: polymorphic bacillus Gram staining: + Spore: - Mobility: - Oxidase: - **Catalase**: + Rod-coccus cycle: + Extension of periphery not observed of colony: Growth under anaerobic - condition: Diamino acid of cell wall: meso-diaminopimelic acid Glycolyl test: - (acetyl type) Sugar composition of cell wall: Arabinose: + Galactose: + Existence of quinone: MK-8 (H.sub.2) **Alcaligenes** sp. BC12-2, BC20, BC35-2 and BC24 Strains: Shape: bacillus Gram staining: - Spore: - Mobility: + Flagella: peritrichous Oxidase: + **Catalase**: + O-F test: alkalization 3-Ketolactose production: - Existence of quinone: Q-8 Acinetobacter sp. BC9-2 Strain: Shape: bacillus Gram staining: - Spore: - Mobility: - Oxidase: - **Catalase**: + O-F test: - _____

US-PAT-NO: 5212089

DOCUMENT-IDENTIFIER: US 5212089 A

TITLE: Process for prepartion of s-(+)-3-halogeno-1,2-propanediol by treatment with alcaligenes

DATE-ISSUED: May 18, 1993

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Suzuki; Toshio	Toyonaka	N/A	N/A	JP
Kasai; Naoya	Amagasaki	N/A	N/A	JP

APPL-NO: 07/ 631091

DATE FILED: December 19, 1990

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
JP	1-330368	December 19, 1989

US-CL-CURRENT: 435/280, 435/157 , 435/158 , 435/829

ABSTRACT:

A process for preparation of S-(+)-3-halogeno-1,2-propanediol which comprises cultivating a bacterium, which has an ability to assimilate R-(-)-3-halogeno-1,2-propanediol and belongs to the genus Alcaligenes, or its culture broth in a medium containing racemate 3-halogeno-1,2-propanediol, and recovering S-(+)-3-halogeno-1,2-propanediol from the resulting culture broth.

7 Claims, 0 Drawing figures

Exemplary Claim Number: 1

---------- KWIC ---------

Brief Summary Text - BSTX (21):

By classification based on the results of Table 1 according to Bergey's Manual of Systematic Bacteriology 9th edition, it was revealed that all the above strains belong to the genus **Alcaligenes** because they are Gramnegative aerobic rods, have peripheral flagella, and are oxidase-positive and **catalase**-positive. Although there can be mentioned as their closely related strains **Alcaligenes** faecalis, **Alcaligenes** denitrificans subsp. denitrificans and **Alcaligenes** denitrificans subsp. xylosoxydans, the above strains differ

from **Alcaligenes** faecalis in that all the former strains can utilize D-gluconic acid and glycerol as carbon sources whereas the latter strain cannot utilize D-gluconic acid and glycerol, from **Alcaligenes** denitrificans subsp. xylosoxydans in that all the former strains cannot utilize D-glucose as a carbon source whereas the latter

Brief Summary Paragraph Table - BSTL (1):

TABLE 1

Alcaligenes sp.	**Alcaligenes** sp.	**Alcaligenes** sp. DS-S-7G	DS-S-8S	DS-S-1C
A.				
Morphology	Shape of cells	rods	same as left	same as left
Size of cells	0.4-0.6 .times. 1.2-1.5 .mu.m	same as left	same as left	
Pleomorphisms of cells	none	same as left	same as left	
Mobility	+, peripheral flagella	same as left	same as left	
Spores	none	same as left	same as left	
Gram stain	negative	same as left	same as left	
Acid fastness	none	same as left	same as left	
B. Growth condition in various media				
1. Nutrient agar (for 3 days at 30.degree. C.)				
1) Speed of colony growth	ordinary	same as left	same as left	
2) shape of colonies	circular	same as left	same as left	
3) Shape of colony surface	smooth	same as left	same as left	
4) Raised condition of colonies	convex	same as left	same as left	
5) Periphery of colonies	entire	same as left	same as left	
6) Contents of colonies	homogeneous	same as left	same as left	
7) Color of colonies	milky white	same as left	same as left	
8) Gloss of colonies	dull	same as left	same as left	
9) Transparency of colonies	translucent	same as left	same as left	
10) Formation of soluble pigments	none	same as left	same as left	
2. Slant culture of nutrient agar (for 3 days at 30.degree. C.)				
1) Growth degree	good	same as left	same as left	
2) Growth condition	filiform	same as left	same as left	
3) Shape of colony surface	smooth	same as left	same as left	
4) Shape of colonies in section	flat	same as left	same as left	
5) Gloss of colonies	dull	same as left	same as left	
6) Color tone of colonies	milky white	same as left	same as left	
7) Transparency of colonies	translucent	same as left	same as left	
3. Nutrient liquid standing culture (for 3 days at 30.degree. C.)				
1) Growth condition	somewhat turbid	same as left	same as left	
2) Gas production	none	same as left	same as left	
3) Coloring of the medium	none	same as left	same as left	
4. Gelatin liquefaction test (+: liquefacts gelatin, -: liquefacts no gelatin)		-	-	-
5. Litmus milk +: reduces litmus to white, non-coagulated, -: no change, non-coagulated		-	-	-
6. MGPB agar (for 6 days at 30.degree. C.) (MGPB agar: 3-halogeno-1,2-propanediol 1.0%, peptone 0.1%, yeast extract 0.1%, bromothymol blue 0.01%, agar 2.0%, ph 7.0)				
1) Speed of colony growth	slow	same as left	same as left	
2) Shape of colonies	circular	same as left	same as left	
3) Shape of colony surface	smooth	same as left	wrinkled (concentrically circular)	
4) Raised condition of colonies	convex	same as left	flat	
5) Periphery of colonies	entire	same as left	undulate	
6) Contents of colonies	homogenous	same as left	same as left	
7) Color tone of colonies	orange at the center	orange at the periphery	same as left	milky white at the
8) Gloss of colonies	dull	same as left	same as left	
9) Transparency of colonies	opaque	same as left	same as left	
10) Formation of soluble pigments	none	same as left	same as left	
C. Physiological test				
Lysine decarboxylation	+	+	+	
test VP test	-	-	-	
MR test	-	-	-	
Reduction of nitrate	-	-	-	
Production of indole	-	-	-	
PPA reaction	-	-	-	
Formation of				

hydrogen - - - sulfide Utilization of citric + + + acid Starch decomposition - - - reaction 10. Denitrification - - - reaction Utilization of + + + inorganic salt 12. Formation of dye 1) King A medium - - - 2) King B medium - - - 3) Pseudomonas P medium - - - 4) Pseudomonas F medium - - - **Catalase** + + + Oxidase + + + Arginine dehydrogenase - - - Urease test - - - 17. OF-test (Hugh Leifson method. No gas formation was observed. 1) D-glucose - - - 2) Glycerol 0 0 0 3) D-galactose - - - 4) D-fructose - - - 5) D-trehalose - - - 18. Accumulation of PHB. + + + 19. Utilization of carbon sources 1) D-mannitol - - - 2) D-fructose - - - 3) D-glucose - - - 4)

US-PAT-NO: 5168060

DOCUMENT-IDENTIFIER: US 5168060 A

TITLE: Identification, characterization, and method of production of a novel microbial lipase

DATE-ISSUED: December 1, 1992

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Holmes; Paul E.	Hamden	CT	N/A	N/A

APPL-NO: 07/ 749767

DATE FILED: August 26, 1991

PARENT-CASE:

This application is a continuation-in-part of pending patent application Ser. No. 07/324,062 filed Mar. 16, 1989, now U.S. Pat. No. 5,063,160.

US-CL-CURRENT: 435/198, 435/253.3 , 435/271

ABSTRACT:

A novel lipase from a newly-discovered strain of Pseudomonas alcaligenes microorganism having (i) an optimum pH for activity of about 10.+-.0.5; (ii) an optimum temperature for activity of about 45.degree. to 55.degree. C.; (iii) an optimum pH for stability of about 7.0.+-.0.5; (iv) a molecular weight as measured by SDS-PAGE of about 3.0.times.10.sup.4 ; and (v) chemical stability for at least a 60 day mean half-life in the presence of a 10 percent solution of polyoxyethylene (23) lauryl ether in 25 millimolar aqueous calcium chloride. Also claimed is a biologically pure culture of the microorganism, and a method for the production of the lipase.

4 Claims, 2 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 2

---------- KWIC ---------

Detailed Description Paragraph Table - DETL (3):

TABLE III _____ Characteristics of P. **alcaligenes** Strain SD2 and Selected Lipase-Producing Strains of P.

pseudoalcaligenes. (The CBS Strain Accession Numbers Correspond to Those Referenced in International Publication No. WAO 87/00859) Strain of Comparison Strains Invention CBS CBS CBS CBS Characteristics SD2 467.85 468.85 471.85 473.85 _____ Cell shape rod rod rod rod rod Motility + + + + + Spores - - - - - Gram strain - - - - - Oxidase + + + + + Anaerobic - - - - - glucose Aerobic - - - - - glucose Aerobic - - - - - maltose Aerobic - - - - - sucrose Aerobic - - - - + D-xylose Arginine + + + - + dihydrolase Gelatin - - - - - hydrolysis Starch - - - - - hydrolysis NO.sub.3.sup.- .fwdarw. NO.sub.2.sup.- + + + + + NO.sub.2.sup.- .fwdarw. N.sub.2 + - - - - Citrate - + + + + Ulilization **Catalase** + + + + + Growth at 41.degree. C. + + + + +

_____

US-PAT-NO: 5116744

DOCUMENT-IDENTIFIER: US 5116744 A

TITLE: Microbial cyanide converting enzymes, their production and use

DATE-ISSUED: May 26, 1992

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Ingvorsen; Kjeld	Vaerloese	N/A	N/A	DK
Godtfredsen; Sven E.	Vaerloese	N/A	N/A	DK
Hojer-Pedersen; Birgitte	Vaerloese	N/A	N/A	DK

APPL-NO: 07/ 595684

DATE FILED: September 19, 1990

PARENT-CASE:

This application is a continuation of United States application Ser. No. 07/167,720 filed Mar. 14, 1988.

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
DK	1283/87	March 12, 1987

US-CL-CURRENT: 435/128, 210/606 , 210/632 , 210/904 , 435/227 , 435/232 , 435/262 , 435/829

ABSTRACT:

A novel cyanide converting enzyme, a "cyanidase" is described.

The enzyme is extremely efficient in reducing substantial concentrations of cyanide to very low levels in a broad pH, and temperature range, and in the presence of organics and metal ions.

20 Claims, 0 Drawing figures

Exemplary Claim Number: 1

---------- KWIC ---------

Brief Summary Paragraph Table - BSTL (1):

_____ CHARACTERIZATION OF ENZYME

PREPARATION Optimum pH: 7.8. Stable and active pH range: 6-9. Optimum temperature: 40.degree. C. Active temperature range (above 20%): 15.degree. C.-50.degree. C. Taxonomy of strains DSM 4009 and 4010 Properties of the strain DSM 4009 DSM 4010 _____ Shape of cells rods width .mu.m 0.5-0.7 0.5-0.7 length .mu.m 0.8-2.5 0.8-2.5 Motility + + Flagellation peritrichous peritrichous Gram reaction - - Lysis by 3% KOH + + Aminopetidase (Cerny) + + Spores - - Oxidase + + **Catalase** + + Growth anaerobic - - 37/41.degree. C. +/- +/- pH 5.6 + + Mac-Conkey-Agar + + SS-Agar + + Cetrimid-Agar + + autotrophic with hydrogen - - Pigments non diffusible - - diffusible - - fluorescent - - pyocyanine - - Acid from (OF-Test) glucose aerobic - - glucose anaerobic - - Gas from glucose - - Acid from (ASS) glucose - - fructose - - xylose - - ONPG - - ADH - - LDC - - VP - - Indol - - NO.sub.2 from NO.sub.3 + + Denitrification + + Phenylalanine deaminase - - Levan from sucrose - - Lecithinase - - Urease - - Hydrolysis of starch - - gelatin - - casein - - DNA - - Tween 80 - - esculin - - Tyrosine degradation - (nd) Growth factor - - requirements Utilization of acetate + - adipate + - caprate - - citrate + - glycolate - (nd) levulinate - - malate + - malonate - (nd) phenylacetate + + L-arabinose - - fructose - - glucose - - mannose - - maltose - - xylose - - mannitol - - gluconate - + 2-ketogluconate - (nd) N-acetylglucosamine - - L-serine + (nd) _____ Result: = **Alcaligenes** denitrificans subsp. (nd) = not determined

US-PAT-NO: 5069810

DOCUMENT-IDENTIFIER: US 5069810 A

TITLE: Cleaning composition comprising microbial lipase SD2 and sodium dodecylbenzene sulfonate

DATE-ISSUED: December 3, 1991

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Holmes; Paul E.	Hamden	CT	N/A	N/A
Roberts; Katherine P.	Derby	CT	N/A	N/A
August; Christine M.	Plainville	CT	N/A	N/A

APPL-NO: 07/ 428550

DATE FILED: October 30, 1989

PARENT-CASE:

This application is a continuation-in-part of co-pending U.S. application Ser. No. 07/324,062, filed on Mar. 16, 1989.

The invention herein described relates generally to a new detergent composition, and more particularly a composition suitable for use in laundry and/or dishwashing applications.

By way of background, dodecylbenzene sulfonate ("DBS") is a commonly used surfactant employed in household detergents. It is considered low-cost, safe and effective. Because of dodecylbenzene sulfonate's wide-spread usage in cleaning products, compatibility with and efficacy in the presence of this surfactant is an important consideration in the evaluation of new detergent additives.

Recently, lipases have become of interest as laundry detergent additives. By way of illustration, Novo Industri A/S has recently introduced into the marketplace a lipase referred to as LIPOLASE. However, the present inventors have found that LIPOLASE is not as effective as might be desired in performing its function of breaking down lipids into fatty acids, particularly in the presence of DBS when formulated into dodecylbenzene sulfonate-containing laundering formulations.

In view of the above, new lipases exhibiting enhanced efficacy in the presence of dodecylbenzene sulfonate would be highly desired by the detergent manufacturing community.

In one aspect, the present invention relates to a detergent composition comprising the microbial lipase SD2 and sodium dodecylbenzene sulfonate. In the detergent, the lipase is characterized by having (i) an optimum pH for activity of about 8.+-.0.5; (ii) an optimum temperature for activity of about

30.degree. to 55.degree. C. and (iii) a molecular weight as measured by gel permeation chromatography of about 8.8 .times.10.sup.4. This and other aspects will become apparent from a reading of the following detailed specification.

The present inventors have isolated a biologically pure culture of a previously undescribed strain of Pseudomas alcaligenes, strain SD2, as disclosed and claimed in co-pending, commonly-assigned U.S. application Ser. No. 324,062, incorporated herein by reference in its entirety. The organism is a natural isolate and has been deposited with the American Type Culture Collection (ATCC), having been assigned the accession number ATCC 53877. This novel strain SD2 was found to produce a novel lipase.

The microorganism, P. alcaligenes, strain SD2, was isolated from a shower drain by direct isolation on a Tryptone-Soytone-Olive oil isolation medium. The isolation medium employed is more fully described in Table I below.

TABLE I _____ Isolation Medium Percent by Weight _____ Ammonium sulfate 0.5 Potassium phosphate, dibasic 0.05 Magnesium sulfate, heptahydrate 0.025 Tryptone (Difco) 1.7 Soytone (Difco) 0.3 Olive oil 1.0 Rhodamine B 0.001 Agar 1.5 _____

The Rhodamine B dye in the isolation medium causes lipase-producing bacterial colonies to fluoresce an orange color when irradiated with long wavelength ultraviolet light (Kouker, G. and K. -E. Jaeger, 1987, App. Environ. Microbiol, 53: 211-3). This fluorescence permits the easy identification of lipase-producers. Colonies so identified were purified by restreaking onto similar media. Stock cultures were maintained on Difco TSA slants.

The bacterial isolate was identified using standard taxonomic procedures from Bergey's Manual of Systematic Bacteriology (Williams & Wilkins, Baltimore, 1984). The results of applicable physiological characterization tests of P. alcaligenes strain SD2 are presented in Table II and compared with characteristics of P. alcaligenes and P. pseudoalicaligenes published in Bergey's Manual.

TABLE II _____ Substrate Utilization of P. alcaligenes Strain SD2, P. alcaligenes, and P. pseudoalicaligenes Strain*

	SD2	P. alcaligenes	P. pseudoalicaligenes
Fructose	-	-	+
L-aspartate	+	-	-
L-glutamate	-	+	+
D-gluconate	-	-	d
L-Histidine	-	d	d
Ethanolamine	-	-	+
n-Butanol	-	d	+
Isobutanol	+	d	-
Citrate	-	d	d
Betaine	-	-	+
Glycerol	-	-	d
Sorbitol	-	-	d
Itaconate	-	-	d

Abbreviation: d (11-80 percent of strains positive); + (strain was able to utilize the indicated chemical for growth); - (strain did not utilize the chemical for growth). *Data for P. alcaligenes and P. pseudoalicaligenes are from Bergey's Manual of Systematic Bacteriology (Williams & Wilkins [Baltimore, 1984]). Compounds utilized by all strains include: DLlactate, succinate, fumarate acetate, Larginine, caprate, and Lmalate. Compounds not utilized by any strain include: Dglucose, Larabinose, Dmannose, Dmannitol, Lrhamnose, D(+)galactose, D(-)ribose, m. inositol, Lthreonine, mtartrate, adipate, phenylacetate, nicotinate, sebacate, suberate, benzoate, and pimelate.

This table illustrates nutritional capabilities of the indicated strains and further illustrates their differences.

Several lipase-producing strains of P. pseudoalicaligenes are disclosed in International Publication No. WO 87/00859 published under the Patent Cooperation Treaty. Table III presents certain morphological and physiological characteristics of P. alcaligenes strain SD2, as compared to the characteristics of four strains of P. pseudoalicaligenes disclosed in International Publication No. WO 87/00859. Differences between the SD2 strain of the present invention and the other strains are readily apparent. For example, SD2 utilized L-aspartate, while the two other Pseudomonas species did not, as noted noted in Table II.

TABLE III _____ Characteristics of P. **alcaligenes** Strain SD2 and Selected Lipase-Producing Strains of P. pseudoalicaligenes. (The CBS Strain Accession Numbers Correspond to Those Referenced in International Publication No. WO 87/00859) Comparison Strains Strain of Invention CBS CBS CBS CBS Characteristic SD2 467.85 468.85 471.85 473.85 _____ Cell shape rod rod rod rod rod Motility + + + + + Spores - - - - - Gram Strain - - - - - Oxidase + + + + + Anaerobic - - - - - glucose Aerobic - - - - - glucose Aerobic - - - - - maltose Aerobic - - - - - sucrose Aerobic - - - - + D-xylose Arginine + + + - + dihydralase Gelatin - - - - - hydrolysis Starch - - - - hydrolysis NO.sub.3.sup.- .fwdarw.NO.sub.2.sup.- + + + + + NO.sub.2.sup.- .fwdarw.N.sub.2 + - - - - Citrate - + + + + Utilization **Catalase** + + + + + Growth at + + + + + 41.degree. C. _____

Strain SD2 of the present invention can be grown in various types of culture media under conditions suitable for growth of pseudomonads. Typically, such media contain assimilable sources of carbon, nitrogen, and various inorganic mineral nutrients. By way of illustration, P. alcaligenes strain SD2 was grown in L-Aspartate Medium having the formulation as shown in Table IV.

TABLE IV _____ Culture Medium Ingredient Percent by Weight _____ Ammonium sulfate 0.5 Potassium phosphate, dibasic 0.05 Magnesium sulfate, heptahydrate 0.025 Tris(hydroxymethyl)aminomethane 1.21 L-Aspartic acid 2.0 Brij .RTM. 58 1.0 mM FeCl.sub.3 1.0 .mu.M _____

The medium is adjusted to pH 7.5-8.0 with potassium hydroxide prior to sterilization. The advantage of this medium over the Tryptone medium referred to in U.S. application Serial No. 324,062 is that a white product is obtained, free of colored high molecular weight metabolites typically found in Tryptone medium.

The lipase of the invention is found in culture media, preferably liquid media, containing P. alcaligenes strain SD2. Quantities of this enzyme can be obtained by culturing P. alcaligenes strain SD2 in liquid culture and under culture conditions suitable for growth of organisms of this type. For example, an actively growing broth culture of P. alcaligenes strain SD2 is suitably used as an inoculum and introduced into Erlenmeyer flasks containing L-Aspartate medium (C. F. Table IV). In addition, the inclusion of the non-ionic

surfactant BRIJ.RTM. 58 [polyoxyethylene (20) cetyl ether] in liquid growth medium containing P. alcaligenes strain SD2 at a 1-10 mM concentration, preferably 1 mM, increased the yield of the lipase by a factor of two-fold or more in contrast to control cultures without this surfactant. Cultures are incubated with shaking for about 24 hours at a temperature of about 30.degree. C. Following this culture growth period, the bacterial cells are removed by centrifugation or filtration or other suitable techniques. The lipase which is found in the resultant clarified culture liquor is then generally concentrated prior to use. Several methods may be used to concentrate this enzyme, including ultrafiltration as discussed in Example 1.

It is desirable that lipases intended for commercial utilization be stable in the presence of various surfactants commonly found in cleaning product formulations. Advantageously, the lipase of P. alcaligenes strain SD2 was found to be functional in the presence of commercial surfactants such as dodecylbenzene sulfonate and fatty alcohol ethoxysulfates. In a laundry detergent composition the lipase strain SD2 is employed in an amount of between about one million and about 100 million, preferably between about 5 and about 10 million lipase units per kilogram of DBS in the detergent. Upon dilution of the detergent composition with water to form a wash solution, the lipase SD2 is generally present in an amount of between about one and about 500, preferably between about 3 and about 5 lipase units per milliliter of laundry wash solution. The term "lipase unit" is defined in Table V, footnote (1).

Regarding the stability of the lipase produced by P. alcaligenes strain SD2, this enzyme loses activity during storage at a rate that is directly proportional to temperature. For example, during accelerated aging tests conducted at a temperature of 37.degree. C. and a pH of 7.0, the lipase useful in this invention demonstrated a half-life of about 5 days in the absence of surfactants. The addition of calcium, in the form of CaCl.sub.2, stabilized the SD2 lipase and increased its half-life to over 45 days at suitable CaCl.sub.2 concentrations. The concentration of CaCl.sub.2 required to enhance such enzyme longevity is related to the particular lipase formulation. For example, in simple buffered enzyme solutions lacking surfactants, where the buffer is, for example, 50 mM BES [N, N-bis (2-hydroxyethyl)-2-amino-ethanesulfonic acid] at pH 7.0, the addition of 5 mM CaCl.sub.2, preferably 10 mM, is sufficient. The optimum concentration of CaCl.sub.2 in the presence of preferred surfactants is about 25 mM or more. In formulations of the lipase of P. alcaligenes strain SD2, various surfactants can be used in view of this lipase's stability in the presence of surfactants. Examples of preferred surfactants include the non-ionic surfactant BRIJ.RTM. 35 [polyoxyethylene (23) lauryl ether] and the anionic surfactant SANDOPAN.RTM. DTC gel (sodium trideceth-7-carboxylate). Preferred non-ionic surfactants are those having a hydrophobic end containing 12-16 carbon units, and a polyoxyethylene chain size of about 20-23 ethylene oxide units. In general, anionic surfactants of the carboxylated type are preferred and are most compatible with the novel lipase of P. alcaligenes strain SD2.

While the invention has been described above with reference to specific embodiments thereof, it is apparent that many changes, modifications and variations can be made without departing from the inventive concept disclosed herein. Accordingly, it is intended to embrace all such changes, modifications and variations that fall within the spirit and broad scope of the appended

claims. All patent applications, patents and other publications cited herein are incorporated by reference in their entirety.

US-CL-CURRENT: 510/321, 510/226 , 510/320 , 510/392

ABSTRACT:

This invention is directed to a detergent composition comprising the microbial lipase SD2 and dodecylbenzene sulfonate. In the detergent composition, the lipase SD2 is characterized by having (i) optimum pH for activity of about 8.+-.0.5; (ii) an optimum temperature for activity of about 30.degree. to 55.degree. C. and (iii) a molecular weight as measured by gel permeation chromatography of about 8.8.times.10.sup.4.

6 Claims, 0 Drawing figures

Exemplary Claim Number: 1

---------- KWIC ----------

Parent Case Paragraph Table - PCTL (3):

TABLE III _____ Characteristics of P. **alcaligenes** Strain SD2 and Selected Lipase-Producing Strains of P. pseudoalicaligenes. (The CBS Strain Accession Numbers Correspond to Those Referenced in International Publication No. WO 87/00859) Comparison Strains Strain of Invention CBS CBS CBS CBS Characteristic SD2 467.85 468.85 471.85 473.85 _____ Cell shape rod rod rod rod rod Motility + + + + + Spores - - - - - Gram Strain - - - - - Oxidase + + + + + Anaerobic - - - - - glucose Aerobic - - - - - glucose Aerobic - - - - - maltose Aerobic - - - - - sucrose Aerobic - - - - + D-xylose Arginine + + + - + dihydralase Gelatin - - - - - hydrolysis Starch - - - - hydrolysis NO.sub.3.sup.- .fwdarw.NO.sub.2.sup.- + + + + + NO.sub.2.sup.- .fwdarw.N.sub.2 + - - - - Citrate - + + + + Utilization **Catalase** + + + + + Growth at + + + + + 41.degree. C. _____

US-PAT-NO: 5063160

DOCUMENT-IDENTIFIER: US 5063160 A

TITLE: Identification, characterization, and method of production of a novel microbial lipase

DATE-ISSUED: November 5, 1991

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Holmes; Paul E.	Hamden	CT	N/A	N/A

APPL-NO: 07/ 324062

DATE FILED: March 16, 1989

US-CL-CURRENT: 435/253.3, 435/198 , 435/271 , 435/874

ABSTRACT:

A novel lipase from a newly-discovered strain of Pseudomonas alcaligenes microorganism having (i) an optimum pH for activity of about 10.+-.0.5; (ii) an optimum temperature for activity of about 45.degree. to 55.degree. C.; (iii) an optimum pH for stability of about 7.0.+-.0.5; (iv) a molecular weight as measured by gel permeation chromotagraphy of about 8.8.times.10.sup.4 ; and (v) chemical stability for at least 30 days in the presence of the surfactants. Also claimed is a biologically pure culture of the microorganism, and a method for the production of the lipase.

4 Claims, 2 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 2

---------- KWIC ---------

Detailed Description Paragraph Table - DETL (3):

TABLE III _____ Characteristics of P. **alcaligenes** Strain SD2 and Selected Lipase-Producing Strains of P. pseudoalcaligenes. (The CBS Strain Accession Numbers Correspond to Those Referenced in International Publication No. WO 87/00859) Strain of Comparison Strains Invention CBS CBS CBS CBS Characteristic SD2 467.85 468.85 471.85 473.85 _____ Cell shape rod rod rod rod rod Motility + + + + + Spores - - - - - Gram strain - - - - - Oxidase + + + + + Anaerobic - - - - - glucose Aerobic - - - - - glucose Aerobic - - - - -

maltose Aerobic - - - - - sucrose Aerobic - - - - + D-xylose Arginine + + + - + dihydrolase Gelatin - - - - - hydrolysis Starch - - - - - hydrolysis NO.sup.-.sub.3 .fwdarw.NO.sup.-.sub.2 + + + + + NO.sup.-.sub.2 .fwdarw.N.sub.2 + - - - - Citrate - + + + + Utilization **Catalase** + + + + + Growth at + + + + + 41.degree. C. _____

US-PAT-NO: 5059341

DOCUMENT-IDENTIFIER: US 5059341 A

TITLE: Cleaning composition comprising microbial lipase SD2, sodium dodecylbenzene sulfonate and gelatin

DATE-ISSUED: October 22, 1991

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Holmes; Paul	Hamden	CT	N/A	N/A

APPL-NO: 07/ 503488

DATE FILED: April 2, 1990

PARENT-CASE:

This application is a continuation-in-part of co-pending U.S. application Ser. No. 7/428,550, filed on Oct. 30, 1989 which is, in turn, a continuation-in-part of co-pending U.S. application Ser. No. 07/324,062, filed on Mar. 16, 1989.

US-CL-CURRENT: 510/321, 510/226 , 510/235 , 510/320 , 510/392

ABSTRACT:

This invention is directed to a detergent composition comprising the microbial lipase SD2, dodecylbenzene sulfonate, and gelatin. In the detergent composition, the lipase SD2 is characterized by having (i) optimum pH for washing activity of about 8.+-.0.5; (ii) an optimum temperature for activity of about 30+ to 55.degree. C. and (iii) a molecular weight as measured by gel permeation chromatography of about 8.8.times.10.sup.4.

8 Claims, 0 Drawing figures

Exemplary Claim Number: 1

---------- KWIC ---------

Brief Summary Paragraph Table - BSTL (3):

TABLE III _____ Characteristics of P. **alcaligenes** Strain SD2 and Selected Lipase-Producing Strains of P. pseudoalicaligenes. (The CBS Strain Accession Numbers Correspond to Those Referenced in International Publication No. WO 87/00859) Strain of Comparison Strains Invention CBS CBS CBS CBS Characteristic SD2 467.85 468.85 471.85

473.85 _____ Cell shape rod rod rod rod rod
Motility + + + + + Spores - - - - - Gram strain - - - - - Oxidase + + + + +
Anaerobic - - - - - glucose Aerobic - - - - - glucose Aerobic - - - - -
maltose Aerobic - - - - - sucrose Aerobic - - - - + D-xylose Arginine + +
+ - + dyhydrolase Gelatin - - - - - hydrolysis Starch - - - - - hydrolysis
NO.sub.3 NO.sub.2 + + + + + NO.sub.3 N.sub.2 + - - - - Citrate - + + + +
Utilization **Catalase** + + + + + Growth at + + + + + 41.degree. C.

US-PAT-NO: 5047329

DOCUMENT-IDENTIFIER: US 5047329 A

TITLE: Method for the measurement of creatine or creatinine and reagents for these measurements

DATE-ISSUED: September 10, 1991

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Suzuki; Masaru	Kashiwa	N/A	N/A	JP

APPL-NO: 07/ 141043

DATE FILED: January 5, 1988

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
JP	62-13645	January 23, 1987

US-CL-CURRENT: 435/18, 422/56 , 422/57 , 422/58 , 435/25 , 435/28 , 435/805 , 436/175

ABSTRACT:

A method for measuring creatine in a sample by the use of creatine amidinohydrolase which comprises decomposing the N-ethylglycine present in the sample enzymatically and thereafter reacting sarcosine oxidase upon the sample; and a reagent for use in the measurement of creatine comprising the first reagent and the second reagent, wherein the first reagent comprises a sarcosine oxidase of which Km value to N-ethylglycine at pH 8, 37.degree. C. is 20 mM or below and catalase or comprises said sarcosine oxidase, a hydrogen donor oxidatively condensable with 4-aminoantipyrine and peroxidase and the second reagent comprises creatine amidinohydrolase, a sarcosin oxidase of which Km value to N-ethylglycine at pH 8, 37.degree. C. is 50 mM or above, peroxidase and a color reagent for H.sub.2 O.sub.2.

8 Claims, 0 Drawing figures

Exemplary Claim Number: 1

---------- KWIC ---------

Detailed Description Text - DETX (31):

The enzymes used in the present invention may be any origins. As for the creatinine amidohydrolase and creatine amidinohydrolase, all the enzymes

conventionally used in the measurements of creatinine and creatine can be used without exception. Thus, examples of the creatinine amidohydrolase include the creatinine amidohydrolases produced by the microorganisms belonging to Genus **Alcaligenes,** Genus Penicillium, Genus Pseudomonas, Genus Flavobacterium, Genus Arthrobacter, Genus Corynebacterium, etc., and examples of the creatine amidinohydrolase include the creatine amidinohydrolases produced by the microorganisms belonging to Genus Pseudomonas, Genus Bacillus, Genus **Alcaligenes,** Genus Flavabacterium, Genus Arthrobacter, Genus Corynebacterium, etc. As the **catalase** and peroxidase, any of those from animals and those from vegetables can be used. All these enzymes can be produced by a culture and are available commercially.

US-PAT-NO: 4867914

DOCUMENT-IDENTIFIER: US 4867914 A

TITLE: Pregnane derivatives and method of producing the same

DATE-ISSUED: September 19, 1989

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Bunno; Masayasu	Chiba	N/A	N/A	JP
Harada; Hidemi	Kurashiki	N/A	N/A	JP
Tsuji; Masao	Kurashiki	N/A	N/A	JP
Ichihara; Yoshihiro	Kurashiki	N/A	N/A	JP

APPL-NO: 06/ 911970

DATE FILED: September 26, 1986

PARENT-CASE:

This application is a continuation of Ser. No. 806,440, filed Dec. 9, 1985, now abandoned, which is a continuation of Ser. No. 701,973, filed Feb. 15, 1985, now abandoned, which is a continuation of Ser. No. 469,743, filed Feb. 25, 1983, now abandoned.

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
JP	57-30899	February 26, 1982
JP	57-87047	May 21, 1982
JP	57-107448	June 21, 1982

US-CL-CURRENT: 552/553, 552/576 , 552/577 , 552/581 , 552/584 , 552/590 , 552/608

ABSTRACT:

There are provided 12-hydroxy-.DELTA..sup.4 or .DELTA..sup.1,4 -pregnan-3-one-20-carbaldehyde and microbial method of producing the same. The compounds are novel and useful as starting materials for the synthesis of corticoids, typically prednisone, prednisolone and hydrocortisone, which have antiinflammatory activity.

4 Claims, 0 Drawing figures

Exemplary Claim Number: 1

---------- KWIC ---------

Brief Summary Text - BSTX (19):

The strain **Alcaligenes** faecalis D4020 has been identified as a strain of the genus **Alcaligenes** based on its morphological characteristics, among others, that it is a rod having peritrichous flagella and that it reacts negative in Gram staining as well as on the physiological characteristics, among others, that it reacts positive in the oxidase and **catalase** reactions, that it is aerobic and that the oxidation/fermentation test gives oxidative results, and further identified as a strain of the species **Alcaligenes** faecalis based on the facts that it does not liquefy gelatin, that milk becomes alkaline but otherwise remains unchanged and that it does not cause denitrification. Generally, a mutant is considered to belong to the same species as its parent strain belongs to. Accordingly, the strain **Alcaligenes** faecalis D4020-K15 has been judged as belonging to the species **Alcaligenes** faecalis.

Brief Summary Paragraph Table - BSTL (1):

TABLE 1

Alcaligenes faecalis **Alcaligenes** faecalis Taxonomical character D4020 D4020-K15

Morphological characteristics Form Rods Rods Size 0.5 .times. 1.2.about.1.7.mu. 0.5 .times. 1.0.about.1.7.mu. Flagellum Peritrichous flagella Peritrichous flagella Spore Nil Nil Gram stain Negative Negative Acid fast stain Nil Nil Cultural characteristics Bouillon agar plate culture Circular, opaque, convex Circular, opaque, convex Bouillon agar slant culture Moderate growth, filiform, Moderate growth, filiform, pigment not produced pigment not produced Bouillon broth Moderate turbidity, Moderate turbidity pellicle Temperature for growth Growth at 37.degree. C., poor Growth at 37.degree. C., poor growth at 41.degree. C. growth at 41.degree. C. Gelatin stab No liquefaction No liquefaction Litmus milk Alkaline, milk unchanged Alkaline, milk unchanged BCP milk Alkaline, milk unchanged Alkaline, milk unchanged Physiological characteristics (Note 1) Nitrate reduction + + Denitrification - - Methyl red test - - Voges-Proskauer test - - Indole production - - Hydrogen sulfide production - - Starch hydrolysis - - Citrate utilization + + Assimilation of inorganic nitrogen sources + + Urease .+-. .+-. Oxidase + + **Catalase** + + Require of oxygen Aerobic Aerobic Oxidation/Fermentation test Oxidative Oxidative Production of acids and gases from carbohydrates (Note 2) Production Evolution Production Evolution of acids of gases of acids of gases (1) L-Arabinose + - + - (2) D-Xylose + - + - (3) D-Glucose + - + - (4) D-Mannose + - + - (5) D-Fructose - - - - (6) D-Galactose + - + - (7) Maltose - - - - (8) Sucrose - - - - (9) Lactose - - - - (10) Trehalose - - - - (11) D-Sorbitol - - - - (12) D-Mannitol - - - - (13) Inositol - - - - (14) Glycerol - - - - (15) Starch - - - -

---

US-PAT-NO: 4867913

DOCUMENT-IDENTIFIER: US 4867913 A

TITLE: 12.alpha.-substituted pregna-1,4-diene-3,20-diones

DATE-ISSUED: September 19, 1989

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Bunno; Masayasu	Chiba	N/A	N/A	JP
Harada; Hidemi	Kurashiki	N/A	N/A	JP
Tsuji; Masao	Kurashiki	N/A	N/A	JP
Sugiura; Tsutomu	Kurashiki	N/A	N/A	JP
Ichihara; Yoshihiro	Kurashiki	N/A	N/A	JP

APPL-NO: 06/ 898331

DATE FILED: August 20, 1986

PARENT-CASE:

This application is a continuation of application Ser. No. 806,429, filed Dec. 9, 1985 now abandoned; which is a continuation of Ser. No. 701,987, filed Feb. 15, 1985, now abandoned; which is a continuation of Ser. No. 469,739, filed Feb. 25, 1983, now abandoned.

US-CL-CURRENT: 552/584, 552/553 , 552/554 , 552/576 , 552/581 , 552/590 , 552/608

ABSTRACT:

12.alpha.-Substituted pregna-1,4-diene-3,20-diones, which are novel compounds, are provided. These compounds are useful as intermediates for the synthesis of antiinflammatory corticoids represented by prednisone, prednisolone, etc.

12 Claims, 0 Drawing figures

Exemplary Claim Number: 1

---------- KWIC ---------

Brief Summary Text - BSTX (28):

The strain **Alcaligenes** faecalis D4020 has been identified as a strain of the genus **Alcaligenes** based on its morphological characteristics, among others, that it is a rod having peritrichous flagella and that it reacts negative in

Gram staining as well as on the physiological characteristics, among others, that it reacts positive in the oxidase and **catalase** reactions, that it is aerobic and that the oxidation/fermentation test gives oxidative results, and further identified as a strain of the species **Alcaligenes** faecalis based on the facts that it does not liquefy gelatin, that milk becomes alkaline but otherwise remains unchanged and that it does not cause denitrification. Generally, a mutant is considered to belong to the same species as its parent strain belongs to. Accordingly, the strain **Alcaligenes** faeclis D4020-K15 has been judged as belonging to the species **Alcaligenes** faecalis.

Brief Summary Paragraph Table - BSTL (1):

TABLE 1

Alcaligenes faecalis	**Alcaligenes** faecalls	Taxonomical character D4020 D4020-K15
Morphological characteristics	Form Rods	Rods Size 0.5 .times. 1.2.about.1.7 .mu. 0.5 .times. 1.0.about.1.7 .mu. Flagellum Peritrichous flagella Peritrichous flagella Spore Nil Nil Gram stain Negative Negative Acid fast stain Nil Nil Cultural characteristics Bouillon agar plate culture Circular, opaque, convex Circular, opaque, convex Bouillon agar slant culture Moderate growth, filiform, Moderate growth, filiform, pigment not produced pigment not produced Bouillon broth Moderate turbidity, Moderate turbidity pellicle Temperature for growth Growth at 37.degree. C., poor Growth at 37.degree. C., poor growth at 41.degree. C. growth at 41.degree. C. Gelatin stab No liquefaction No liquefaction Litmus milk Alkaline, milk unchanged Alkaline, milk unchanged BCP milk Alkaline, milk unchanged Alkaline, milk unchanged Physiological characteristics (Note 1) Nitrate reduction + + Denitrification - - Methyl red test - - Voges-Proskauer test - - Indole production - - Hydrogen sulfide production - - Starch hydrolysis - - Citrate utilization + + Assimilation of inorganic nitrogen sources + + Urease .+-. .+-. Oxidase + + **Catalase** + + Require of oxygen Aerobic Aerobic Oxidation/Fermentation test Oxidative Oxidative	
Production of acids and gases from carbohydrates (Note 2)	Production of acids	Evolution of gases
Production of acids	Evolution of gases	
L-Arabinose + - + -	(2) D-Xylose + - + -	(3) D-Glucose + - + -
(4) D-Mannose + - + -	(5) D-Fructose - - - -	(6) D-Galactose + - + -
(7) Maltose - - - -	(8) Sucrose - - - -	(9) Lactose - - - -
(10) Trehalose - - - -	(11) D-Sorbitol - - - -	(12) D-Mannitol - - - -
(13) Inositol - - - -	(14) Glycerol - - - -	(15) Starch - - - -

(1)

Remarks: Note 1 The symbols used under Physiological characteristics indicate the following: +: The strain has the corresponding characteristics or produces the corresponding product. .+-.: It is difficult to determine whether the strain has the corresponding characteristics or produces the corresponding product or not. -: The strain neither has the corresponding characteristics nor produces the corresponding product. Note 2 By using Hugh and Leifson medium in which each of the carbohydrates shown in Table 1 and Table 2 was used in lieu of the carbon source thereof, production of acids and

gases by the strain was observed. +: An acid or a gas is produced. .+-.: It is difficult to determine whether an acid or a gas is produced o not. -: Neither an acid nor a gas is produced.

US-PAT-NO: 4833086

DOCUMENT-IDENTIFIER: US 4833086 A

TITLE: Microbial degradation of hydrocarbons

DATE-ISSUED: May 23, 1989

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Horowitz; Amikam	Shaker Heights	OH	N/A	N/A

APPL-NO: 07/ 842528

DATE FILED: March 21, 1986

US-CL-CURRENT: 435/252.1, 435/252.3 , 435/252.33 , 435/262 , 435/320.1 , 435/829

ABSTRACT:

The subject invention concerns a novel plasmid and its use in a microbial host to degrade a variety of organic compounds. Some of these compounds, such as ethylene dichloride, are undesirable waste products found in various dump sites. The invention also concerns a novel microbe hosting the novel plasmid. The novel plasmid has been shown to encode the gene(s) responsible for the degradation of the organic compounds. Thus, microbes hosting this plasmid, denoted pEDC, can be used to degrade ethylene dichloride, and other compounds.

3 Claims, 1 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 1

---------- KWIC ---------

Detailed Description Paragraph Table - DETL (1):

_____ Iso1ate submitted: BFG668.7 Identified as: **Alcaligenes** denitrificans ss. denitrificans Morphology: BFG is a gram negative motile rod with peritrichous flagella. Polybeta-hydroxy-butyrate accumulates as inclusions. Physiology & Biochemistry: Gram positive - Gelatinase - Gram negative + Tween 20 hydrolysis - Gram variable - Tween 80 hydrolysis - Motile at RT + Indole - Flagella peritrichous + Simmons citrate growth + Flagella lophotrichous - Urease - Flagella monotrichous - Nitrate to nitrite + Flagella lateral - Nitrite reduction - 4 C growth - Nitrite to nitrogen gas - 25 C growth + Hydrogen sulfide (TSI) - 30 C growth + Lysine

decarboxylase - 37 C growth + Arginine (Mollers) - 41 C growth w Ornithine decarboxylase - Fluorescein produced - Phenylalanine deamination - Pyocyanine produced - Lecithinase - Diffusible orange - Phosphatase - Diffusible yellow **- Catalase** + Diffusible purple - Oxidase + Non-diffusible green - Gluconate oxidation w Other non-diff. pigments - Growth on malonate + Melanin pigment produced - as SCS pH 6.0 growth + Tyrosine degradation + 3% NaCl growth + dl-hydroxybutyrate growth + 6.5% NaCl growth - PHB accumulation + MacConkey agar growth + Deoxyribonuclease - Skim milk agar growth + Growth on 0.05% + Aesculin hydrolysis - centrimide + Casein hydrolysis - Growth on acetate as SCS + Starch hydrolysis - Testosterone deg. - Sole Carbon Sources in Stanier's Mineral Base: L-arabinose - L-malate + cellobiose - pelargonate - D-fructose - propionate + D-glucose - quinate - lactose - succinate + maltose - L-+-tartrate + D-mannitol - valerate + L-rhamnose - B-alanine + D-ribose - D-A-alanine + D-sorbitol - betaine - sucrose - glycine + trehalose - L-histidine + D-xylose - DL-norleucine + adonitol - L-proline + erythritol - D-tryptophan - glycerol w L-valine + ethanol - DL-arginine - geraniol - benzylamine - i-inositol - butylamine - sebacic acid + putrescine - acetamide + mesoconate + adipate + DL-glycerate + benzoate + L-tryptophan + butyrate + citraconate + D-gluconate + M-hydroxybenzoate + 2-ketogluconate - DL-lactate + Fermentation of Carbohydrates in Hugh & Leifson's O-M Medium: Acid from L-arabinose K Acid from maltose K Acid from cellobiose K Acid from D-mannitol K Acid from ethanol + Acid from D-mannose K Acid from D-fructose K Acid from L-rhamnose K Acid from D-glucose A02 K Acid from D-ribose K Acid from D-glucose An02 - Acid from sucrose K Alkaline pH in D-glucose - Acid from trehalose K Acid from glycerol K Acid from D-xylose K Acid from i-inositol K control K Acid from lactose K

Comparison of Alcaligenees sp. with isolate	A. A. denitrificans denitrificans	A. subsp. subsp. fae-	BFG668.7 denitrificans xylosoxidans calis
Oxidase	+	+	+
Catalase	+	+	+
Peritrichous	+	+	+
Aerobic	+	+	+
Metabolism	Gelatin	-	-
	hydrolysis	-	-
Acid from	0-F glucose	-	-
Acid from	0-F xylose	+	-
Nitrate reduced	to nitrite	+	d
Nitrate		-	d
Reduction		+	+
Carbon Source Utilization			
Adipate		+	+
Sebacate		+	+
Mesaconate		+	+
L-histidine		+	+
B-alanine		+	d
m-Hydroxy-		+	+
benzoate		-	-

D = 11-89% positive K = alkaline + = acid - = no change W = weak positive reaction

US-PAT-NO: 4806482

DOCUMENT-IDENTIFIER: US 4806482 A

TITLE: Microbial degradation of hydrocarbons

DATE-ISSUED: February 21, 1989

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Horowitz; Amikam	Shaker Heights	OH	N/A	N/A

APPL-NO: 07/ 203188

DATE FILED: June 6, 1988

PARENT-CASE:

This is a division of application Ser. No. 842,528, filed Mar. 21, 1986.

US-CL-CURRENT: 435/262, 435/248 , 435/249 , 435/250 , 435/320.1 , 435/829

ABSTRACT:

The subject invention concerns a novel plasmid and its use in a microbial host to degrade a variety of organic compounds. Some of these compounds, such as ethylene dichloride, are undesirable waste products found in various dump sites. The invention also concerns a novel microbe hosting the novel plasmid. The novel plasmid has been shown to encode the gene(s) responsible for the degradation of the organic compounds. Thus, microbes hosting this plasmid, denoted pEDC, can be used to degrade ethylene dichloride, and other compounds.

7 Claims, 1 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 1

---------- KWIC ---------

Detailed Description Paragraph Table - DETL (1):

_____ Isolate submitted: BFG668.7 Identified as: **Alcaligenes** denitrificans ss. denitrificans Morphology: BFG is a gram negative motile rod with peritrichous flagella. Poly-beta-hydroxybutyrate accumulates as inclusions.

_____ Physiology & Biochemistry: Gram positive - Gelatinase - Gram negative + Tween 20 hydrolysis - Gram variable -

Tween 80 hydrolysis - Motile at RT + Indole - Flagella peritrichous + Simmons citrate growth + Flagella lophotrichous - Urease - Flagella monotrichous - Nitrate to nitrite + Flagella lateral - Nitrite reduction - 4 C growth - Nitrite to nitrogen gas - 25 C growth + Hydrogen sulfide (TSI) - 30 C growth + Lysine decarboxylase - 37 C growth + Arginine (Mollers) - 41 C growth w Ornithine decarboxylase - Fluorescein produced - Phenylalanine deamination - Pyocyanine produced - Lecithinase - Diffusible orange - Phosphatase - Diffusible yellow **- Catalase** + Diffusible purple - Oxidase + Non-diffusible green - Gluconate oxidation W Other non-diff. pigments - Growth on malonate as SCS + Melanin pigment produced - Tyrosine degradation + pH 6.0 growth + dl-hydroxybutyrate growth + 3% NaCl growth + PHB accumulation + 6.5% NaCl growth - Deoxyribonuclease - MacConkey agar growth + Growth on 0.05% cetrimide + Skim milk agar growth + Growth on acetate as SCS + Aesculin hydrolysis - Testosterone deg. - Casein hydrolysis - Starch hydrolysis - Sole Carbon Sources in Stanier's Mineral Base: L-arabinose - L-malate + cellobiose - pelargonate - D-fructose - propionate + D-glucose - quinate - lactose - succinate + maltose - L-+-tartrate + D-mannitol - valerate + L-rhamnose - B-alanine + D-ribose - D-A-alanine + D-sorbitol - betaine - sucrose - glycine + trehalose - L-histidine + D-xylose - DL-norleucine + adonitol - L-proline + erythritol - D-tryptophan - glycerol W L-valine + ethanol - DL-arginine - geraniol - benzylamine - i-inositol - butylamine - sebacic acid + putrescine - acetamide + mesoconate + adipate + DL-glycerate + benzoate + L-tryptophan + butyrate + citraconate + D-gluconate + M-hydroxybenzoate + 2-ketogluconate - DL-lactate + Fermentation of Carbohydrates in Hugh & Leifson's O-M Medium: Acid from L-arabinose K Acid from maltose K Acid from cellobiose K Acid from D-mannitol K Acid from ethanol + Acid from D-mannose K Acid from D-fructose K Acid from L-rhamnose K Acid from D-glucose AO2 K Acid from D-ribose K Acid from D-glucose - Acid from sucrose K AnO2 Alkaline pH in D-glucose - Acid from trehalose K Acid from glycerol K Acid from D-xylose K Acid from i-inositol K Acid from lactose K control K

K = alkaline + = acid - = no change W = weak positive reaction

Detailed Description Paragraph Table - DETL (2):

Comparison of **Alcaligenes** sp. with isolate A. denitri- ficans A. subsp. denitrificans denitri- subsp. A. BFG668.7 ficans xylosoxidans faecalis

Oxidase + + + + **Catalase** + + + + Peritrichous + + + + Aerobic Metabolism + + + + Gelatin hydrolysis - - - - Acid from O-F - - + - glucose Acid from O-F xylose - - + - Nitrate reduced to + d + - nitrite Nitrate reduction - d + + Carbon Source Utilization Adipate + + + - Sebacate + + + - Mesaconate + + + - L-histidine + + + - B-alanine + d d - m-Hydroxybenzoate + + + -

D = 1189% positive

US-PAT-NO: 4592868

DOCUMENT-IDENTIFIER: US 4592868 A

TITLE: 11-hydroxypregn-4-en-3-one-20-carbaldehyde and a method for its production

DATE-ISSUED: June 3, 1986

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Tsuji; Masao	Kurashiki	N/A	N/A	JP
Mori; Fumio	Kurashiki	N/A	N/A	JP
Ichihara; Yoshihiro	Kurashiki	N/A	N/A	JP

APPL-NO: 06/ 607458

DATE FILED: May 7, 1984

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
JP	58-81235	May 9, 1983

US-CL-CURRENT: 552/553, 435/52 , 435/53 , 435/829 , 552/534 , 552/535 , 552/548 , 552/549 , 552/550 , 552/552 , 552/554 , 552/577 , 552/590

ABSTRACT:

There is provided the novel compound 11-hydroxypregn-4-en-3-one-20-carbaldehyde, as well as a microbial method for production of the same. This novel compound is of value as a starting material for antiinflammatory corticoids such as hydrocortisone, cortisone, prednisolone and prednisone.

2 Claims, 0 Drawing figures

Exemplary Claim Number: 1

---------- KWIC ---------

Brief Summary Text - BSTX (18):

The strain **Alcaligenes** faecalis D4020 has been identified as a strain of the genus **Alcaligenes** based on its morphological characteristics, among others, that it is a rod having peritrichous flagella and that it reacts negative in Gram staining as well as on the physiological characteristics, among others, that it reacts positive in the oxidase and **catalase** reactions, that it is

aerobic and that the oxidation/fermentation test gives oxidative results, and further identified as a strain of the species **Alcaligenes** faecalis based on the facts that it does not liquefy gelatin, that milk becomes alkaline but otherwise remains unchanged and that it does not cause denitrification. Generally, a mutant is considered to belong to the same species as its parent strain belongs to. Accordingly, the strain **Alcaligenes** faecalis D4020-K15 has been judged as belonging to the species **Alcaligenes** faecalis.

Brief Summary Paragraph Table - BSTL (1):

TABLE

Alcaligenes faecalis **Alcaligenes** faecalis Taxonomical character D4020 D4020-K15

Morphological characteristics Form Rods Rods Size 0.5 .times. 1.2.about.1.7.mu. 0.5 .times. 1.0.about.1.7.mu. Flagellum Peritrichous flagella Peritrichous flagella Spore Nil Nil Gram stain Negative Negative Acid fast stain Nil Nil Cultural characteristics Bouillon agar plate culture Circular, opaque, convex Circular, opaque, convex Bouillon agar slant culture Moderate growth, filiform, Moderate growth, filiform, pigment not produced pigment not produced Bouillon broth Moderate turbidity, Moderate turbidity pellicle Temperature for growth Growth at 37.degree. C., poor Growth at 37.degree. C., poor growth at 41.degree. C. growth at 41.degree. C. Gelatin stab No liquefaction No liquefaction Litmus milk Alkaline, milk unchanged Alkaline, milk unchanged BCP milk Alkaline, milk unchanged Alkaline, milk unchanged Physiological characteristics (Note 1) Nitrate reduction + + Denitrification - - Methyl red test - - Voges-Proskauer test - - Indole production - - Hydrogen sulfide production - - Starch hydrolysis - - Citrate utilization + + Assimilation of inorganic nitrogen sources + + Urease .+-. .+-. Oxidase + + **Catalase** + + Require of oxygen Aerobic Aerobic Oxidation/Fermentation test Oxidative Oxidative

---

Production of acids and gases from carbohydrates Production Evolution Production Evolution (Note 2) of acids of gases of acids of gases

---

(1)

L-Arabinose + - + - (2) D-Xylose + - + - (3) D-Glucose + - + - (4) D-Mannose + - + - (5) D-Fructose - - - - (6) D-Galactose + - + - (7) Maltose - - - - (8) Sucrose - - - - (9) Lactose - - - - (10) Trehalose - - - - (11) D-Sorbitol - - - - (12) D-Mannitol - - - - (13) Inositol - - - - (14) Glycerol - - - - (15) Starch - - - -

---

Remarks: (Note 1) The symbols used under Physiological characteristics indicate th following: +: The strain has the corresponding characteristics or produces the corresponding product. .+-.: It is difficult to determine whether the strain has the corresponding characteristics or produces the corresponding product or not. -: The strain neither has the corresponding characteristics nor produces the corresponding product. (Note 2) By using Hugh and Leifson medium in which each of the carbohydrates shown in Table was used in lieu of the carbon source thereof, production of acids and gases by the strain was observed. +: An acid or a gas is produced. .+-.: It is difficult to determine whether an acid or a gas is produced o not. -: Neither

an acid nor a gas is produced.

US-PAT-NO: 4540661

DOCUMENT-IDENTIFIER: US 4540661 A

TITLE: Composition of matter and process

DATE-ISSUED: September 10, 1985

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Hannon; Betty R.	Kalamazoo Township,	MI	N/A	N/A
Reusser; Fritz	Kalamazoo County	MI	N/A	N/A
Dolak; Lester A.	Portage	MI	N/A	N/A
Argoudelis; Alexander D.	Cooper Township,	MI	N/A	N/A
Castle; Thomas M.	Kalamazoo County	MI	N/A	N/A

Portage
Cooper Township,
Kalamazoo County

APPL-NO: 06/ 469375

DATE FILED: February 24, 1983

US-CL-CURRENT: 435/42; 435/128 , 435/252.1 , 435/252.4 , 435/253.5 , 435/829 , 435/886

ABSTRACT:

Antibiotic U-66,026 is produced in a fermentation under controlled conditions using the microorganism Alcaligenes sp., NRRL B-15269. Enhanced fermentation of titers U-66,026 are obtained when Alcaligenes sp., NRRL B-15269, is cultivated in mixture with Streptomyces plicatus strain 395, NRRL 15273.

Antibiotic U-66,026 is a useful antibiotic which has antifungal activity.

6 Claims, 5 Drawing figures

Exemplary Claim Number: 5

Number of Drawing Sheets: 5

---------- KWIC ---------

Detailed Description Text - DETX (7):

Physiological and Biochemical Characteristics. Broth culture is uniformly turbid at 28 C but not as 37 C. The culture grows in the temperature range of

24 C.-45 C. in 24 hours on BHI Agar. Optimum growth is at 28 C.-45 C. It does not grow at 18 C or 55 C. MacConkey agar is decolorized in 24 hours. Heavy growth is present on BHI agar with 2% rabbit blood. There is no hemolysis. The culture is oxidase and **catalase** positive. No gas is produced from nitrate. Nitrate reduction to nitrite occurs. There is neither oxidative nor fermentative utilization of glucose. The culture is non-reactive on most biochemical tests in the API and Minitek (BBL) miniaturized test systems. Therefore, it is placed in the group of glucose nonfermenters. It has API Profile 0201004.51 and Minitek Profile 600021. These profiles give a first choice identification of **Alcaligenes** sp.

US-PAT-NO: 4520102

DOCUMENT-IDENTIFIER: US 4520102 A

TITLE: Microbial process for producing 12.alpha.-hydroxypregna-1,4-dien-3-one-20.alpha.-carboxylic acid

DATE-ISSUED: May 28, 1985

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Bunno; Masayasu	Nagareyama	N/A	N/A	JP
Sugiura; Tsutomu	Kurashiki	N/A	N/A	JP
Tsuji; Masao	Kurashiki	N/A	N/A	JP
Harada; Hidemi	Kurashiki	N/A	N/A	JP
Ichihara; Yoshihiro	Kurashiki	N/A	N/A	JP

APPL-NO: 06/ 434560

DATE FILED: October 15, 1982

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
JP	56-168276	October 20, 1981
JP	57-17866	February 5, 1982

US-CL-CURRENT: 435/61, 435/829 , 435/874

ABSTRACT:

A microbial process for producing 12.alpha.-hydroxypregna-1,4-dien-3-one-20.alpha.-carboxylic acid or a salt thereof which comprises cultivating a microbe of the species Pseudomonas arvilla or the genus Alcaligenes, e.g. Alcaligenes faecalis, which is capable of producing 12.alpha.-hydroxypregna-1,4-dien-3-one-20.alpha.-carboxylic acid or a salt thereof by utilizing deoxycholic acid or a salt thereof as a substrate, in a culture medium containing the substrate and collecting the resulting compound.

4 Claims, 1 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 1

---------- KWIC ---------

Brief Summary Text - BSTX (13):

It is also determined that **Alcaligenes** faecalis D4020 strain is a microbe of the genus **Alcaligenes** in view of its microscopic observation such as rod-form, peritrichous flagella and negative in gram stain as well as its physiological character such as positive in both oxidase and **catalase** reactions and oxidative in Oxidation/Fermentation test. Further, it is determined that **Alcaligenes** faecalis D4020 strain is a microbe of the species **Alcaligenes** faecalis in view of no liquefaction of gelatin stab, behavior in cultivation using litmus milk and BCP milk (milk being unchanged except becoming alkaline) and no denitrification. It is determined that **Alcaligenes** faecalis D4020-H405 strain is a microbe of the species **Alcaligenes** faecalis because, in general, a mutant is classified into the same species of its parent strain.

US-PAT-NO: 3957579

DOCUMENT-IDENTIFIER: US 3957579 A

TITLE: Method for preparing d-tartaric acid

DATE-ISSUED: May 18, 1976

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Sato; Eiji	Zushi	N/A	N/A	JA
Yanai; Akira	Kamakura	N/A	N/A	JA

APPL-NO: 05/ 571222

DATE FILED: April 24, 1975

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
JA	49-47525	April 30, 1974

US-CL-CURRENT: 435/145, 435/824 , 435/829

ABSTRACT:

Dextro or d-tartaric acid is prepared by microbial conversion of cis-epoxysuccinic acid which is subjected to asymmetrical hydrolysis by the catalytic action of a microorganism taken from the group consisting of the genera Achromobacter and Alcaligenes in which cis-epoxysuccinic acid in an aqueous solution is brought into contact with the enzyme d-tartrate epoxidase.

12 Claims, 0 Drawing figures

Exemplary Claim Number: 1

--------- KWIC ---------

Brief Summary Paragraph Table - BSTL (2):

Table 2

Name of species	**Alcaligenes** epoxylyticus nov. sp.	**Alcaligenes** margaritae nov. sp.
No.	TORAY 1128	TORAY 1110 FERM-P FERM-P 2511 FERM-P 2512
Morphlogical properties	0.8 - 1.2.mu. .times. 0.8 - 2.0.mu.. Coccoid to short rods. Cells, accompanied by slimy material, Same occur singly, Non-motile, asporogenic, Gram negative. Nutrient agar colonies Circular, entire,	

umbonate to convex, smooth, Circlar, entire, convex, smooth, viscid to butyrous, opaque. butyrous, opaque, puncti form. Nutrient agar slant Filliform, growth moderate, brownish white, Same no chromogenesis. Nutrient broth Moderately turbid, granular sediment, very Same thin, oily pellicle. Cis-epoxysuccinate agar slant Filliform, white, translucent, growth moderate, Same opalescent, no chromogenesis. Potato agar slant Filliform, white, opaque growth abundant, Same smooth, glistening, viscid, no chromo- genesis. Gelatin stab No liquefaction. Same BCP milk Becomes blue within 2 - 3 days. No further Same change. No coagulation or peptonization. Physiological properties 1. Reduction of nitrate + -- 2. Denitrification -- -- 3. Methyl red test -- -- 4. Voges Proskauer test -- -- 5. Indole -- -- 6. H.sub.2 S (cystein medium) Strongly produced Strongly produced 7. Hydrolysis of starch -- -- 8. Utilization of citrate Koser's medium -- -- Christensen's medium -- -- 9. Urease Weakly positive Weakly positive 10. Oxidase + + 11. **Catalase** + + 12. Gas from sugar None None 13. Acid from sugar No acid from glucose, fructose, Same mannose, xylose or arabinose. pH relations 6 - 9 6 - 10 Temperature-growth relations Optimal temperature 26 - 30.degree. C. Same No growth at 37.degree. C.

	L #	Hits	Search Text	DBs	Time Stamp
1	L1	7075	catalase$1	USPAT; US-PGPUB	2003/03/31 14:27
2	L2	2415	alcaligenes or deleya or aquamarinus or microscilla or furvescens	USPAT; US-PGPUB	2003/03/31 14:27
3	L3	45	1 same 2	USPAT; US-PGPUB	2003/03/31 14:33
4	L4	57	1 near5 (muta$10 or variant$1)	USPAT; US-PGPUB	2003/03/31 14:33

PGPUB-DOCUMENT-NUMBER: 20030054443

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20030054443 A1

TITLE: 90 human secreted proteins

PUBLICATION-DATE: March 20, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Ruben, Steven M.	Olney	MD	US	
Soppet, Daniel R.	Centreville	VA	US	
Ebner, Reinhard	Gaithersburg	MD	US	
Olsen, Henrik S.	Gaithersburg	MD	US	
Young, Paul E.	Gaithersburg	MD	US	
Greene, John M.	Gaithersburg	MD	US	
Ferrie, Ann M.	Painted Post	NY	US	
Yu, Guo-Liang	Berkeley	CA	US	
Ni, Jian	Germantown	MD	US	
Rosen, Craig A.	Laytonsville	MD	US	
Brewer, Laurie A.	St. Paul	MN	US	
Janat, Fouad	Westerly	RI	US	
Birse, Charles E.	North Potomac	MD	US	

APPL-NO: 09/ 969730

DATE FILED: October 4, 2001

RELATED-US-APPL-DATA:

child 09969730 A1 20011004

parent continuation-in-part-of 09774639 20010201 US PENDING

child 09969730 A1 20011004

parent continuation-of 09244112 19990204 US ABANDONED

child 09969730 A1 20011004

parent continuation-in-part-of PCT/US98/16235 19980804 US UNKNOWN

non-provisional-of-provisional 60238291 20001006 US

non-provisional-of-provisional 60055386 19970805 US

non-provisional-of-provisional 60054807 19970805 US

non-provisional-of-provisional 60055312 19970805 US

non-provisional-of-provisional 60055309 19970805 US

non-provisional-of-provisional 60054798 19970805 US

non-provisional-of-provisional 60055310 19970805 US

non-provisional-of-provisional 60054806 19970805 US

non-provisional-of-provisional 60054809 19970805 US

non-provisional-of-provisional 60054804 19970805 US

non-provisional-of-provisional 60054803 19970805 US

non-provisional-of-provisional 60054808 19970805 US

non-provisional-of-provisional 60055311 19970805 US

non-provisional-of-provisional 60055986 19970818 US

non-provisional-of-provisional 60055970 19970818 US

non-provisional-of-provisional 60056563 19970819 US

non-provisional-of-provisional 60056557 19970819 US

non-provisional-of-provisional 60056731 19970819 US

non-provisional-of-provisional 60056365 19970819 US

non-provisional-of-provisional 60056367 19970819 US

non-provisional-of-provisional 60056370 19970819 US

non-provisional-of-provisional 60056364 19970819 US

non-provisional-of-provisional 60056366 19970819 US

non-provisional-of-provisional 60056732 19970819 US

non-provisional-of-provisional 60056371 19970819 US

US-CL-CURRENT: 435/69.1, 435/183 , 435/320.1 , 435/325 , 435/6 , 435/7.1 , 530/350 , 536/23.1

ABSTRACT:

The present invention relates to novel human secreted proteins and isolated nucleic acids containing the coding regions of the genes encoding such proteins. Also provided are vectors, host cells, antibodies, and recombinant methods for producing human secreted proteins. The invention further relates

to diagnostic and therapeutic methods useful for diagnosing and treating diseases, disorders, and/or conditions related to these novel human secreted proteins.

[0001] This application is a non-provisional application of, and claims benefit under 35 U.S.C. .sctn.119(e) of U.S. Provisional Application No. 60/238,291, filed Oct. 6, 2000; this application is also a continuation-in-part of, and claims priority under 35 U.S.C. .sctn.120 to U.S. application Ser. No. 09/774,639, filed on Feb. 1, 2001, which is a continuation of U.S. application Ser. No. 09/244,112, filed on Feb. 4, 1999, which is a continuation-in-part of, and claims priority under 35 U.S.C. .sctn.120 to International Application No. PCT/US98/16235, filed on Aug. 4, 1998 (published in English), which claims benefit under 35 U.S.C. .sctn.119(e) of U.S. Provisional Application Nos: 60/055,386, 60/054,807, 60/055,312, 60/055,309, 60/054,798, 60/055,310, 60/054,806, 60/054,809, 60/054,804, 60/054,803, 60/054,808, and 60/055,311 filed on Aug. 5, 1997; U.S. Provisional Application Nos. 60/055,986 and 60/055,970 filed on Aug. 18, 1997; and U.S. Provisional Application Nos: 60/056,563, 60/056,557, 60/056,731, 60/056,365, 60/056,367, 60/056,370, 60/056,364, 60/056,366, 60/056,732, and 60/056,371 filed on Aug. 19, 1997. Each of the above cited International Applications, U.S. Non-Provisional Applications, and U.S. Provisional Applications are hereby incorporated by reference in their entireties.

---------- KWIC ---------

Summary of Invention Paragraph - BSTX (550):

[0445] The tissue distribution in neutrophilsindicates that polynucleotides and polypeptides corresponding to this gene would be useful for the diagnosis, detection, prevention and/or treatment of a variety of immune system disorders. Expression of this gene product indicates that polynucleotides and/or polypeptides of the invention may play a role in regulating the proliferation; survival; differentiation; and/or activation of potentially all hematopoietic cell lineages, including blood stem cells. Polynucleotides and/or polypeptides corresponding to this gene may be involved in the regulation of cytokine production, antigen presentation, or other processes that may also indicate a usefulness in the treatment of cancer (e.g., by boosting immune responses). Since the gene is expressed in cells of lymphoid origin, the natural gene product may be involved in immune functions. Therefore polynucleotides and/or polypeptides corresponding to this gene may be also used as an agent for immunological disorders including arthritis, asthma, immune deficiency diseases such as AIDS, leukemia, rheumatoid arthritis, inflammatory bowel disease, sepsis, acne, and psoriasis. and tissues. In addition, this gene product may have commercial utility in the expansion of stem cells and committed progenitors of various blood lineages, and in the differentiation and/or proliferation of various cell types. Alternatively, the homology to catalase indicates that polynucleotides and polypeptides corresponding to this gene would be useful for the study, detection, treatment,and/or prevention of a variety of metabolic disorders. As elevated levels of peroxide in cells and tissues leads to oxidative damage, largely through the generation of oxide free-radicals, **mutations within the catalase** gene may lead to the accumulation

of cellular mutations over time and could predispose an individual to cancer or other disorder and disease. Protein, as well as, antibodies directed against the protein may show utility as a tumor marker and/or immunotherapy targets for the above listed tissues.

PGPUB-DOCUMENT-NUMBER: 20030049807

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20030049807 A1

TITLE: Micro-organism possessing enantioselective and regioselective nitrile hydratase/amidase activities

PUBLICATION-DATE: March 13, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Salvo, Giuseppe	Mazzara 'Sant' Andrea		IT	
Brandt, Alberto	Rome		IT	
Cecchetelli, Loredana	Genzano		IT	

APPL-NO: 10/ 231307

DATE FILED: August 29, 2002

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	DOC-ID	APPL-DATE
IT	MI2001A001826	2001IT-MI2001A001826	August 30, 2001

US-CL-CURRENT: 435/136, 435/228 , 435/252.2 , 435/320.1 , 435/69.1 , 536/23.2

ABSTRACT:

The present invention is concerned with new micro organisms, preferably mutagenised, belonging to the genus Agrobacterium radiobacter able to convert nitriles and/or amides into their respective acids, in addition to conversion processes utilising said micro-organisms.

---------- KWIC ---------

Claims Text - CLTX (2):

2. The micro-organism according to claim 1, **mutagenised and characterised by being positive for the enzymatic marker catalase** and negative for the enzymatic marker oxidase.

PGPUB-DOCUMENT-NUMBER: 20030036181

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20030036181 A1

TITLE: Peptide extended glycosylated polypeptides

PUBLICATION-DATE: February 20, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Okkels, Jens Sigurd	Vedbaek		DK	
Jensen, Anne Dam	Copenhagen		DK	
van den Hazel, Bart	Copenhagen		DK	

APPL-NO: 09/ 896896

DATE FILED: June 29, 2001

RELATED-US-APPL-DATA:

non-provisional-of-provisional 60217497 20000711 US

non-provisional-of-provisional 60225558 20000816 US

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	DOC-ID	APPL-DATE
DK	PA 2000 01027	2000DK-PA 2000 01027	June 30, 2000
DK	PA 2000 01092	2000DK-PA 2000 01092	July 14, 2000
DK	PCT/DK00/00743	2000DK-PCT/DK00/00743	December 29, 2000
DK	PCT/DK01/00090	2001DK-PCT/DK01/00090	February 9, 2001

US-CL-CURRENT: 435/184, 435/183 , 530/322 , 530/350 , 530/351 , 530/388.1 , 530/397

ABSTRACT:

Glycosylated polypeptides comprising the primary structure NH.sub.2--X--Pp--COOH, wherein X is a peptide addition comprising or contributing to a glycosylation site, and Pp is a polypeptide of interest or comprising the primary structure NH.sub.2-P.sub.x--X--P.sub.y-COOH, wherein P.sub.x is an N-terminal part of a polypeptide Pp of interest, P.sub.y is a C-terminal part of said polypeptide Pp, and X is a peptide addition comprising or contributing to a glycosylation site are provided. The glycosylated polypeptides possess improved properties as compared to the polypeptide of interest.

CROSS-REFERENCES TO RELATED APPLICATIONS

[0001] This application claims priority to and benefit of the following United

States Provisional and International Patent Applications: Danish Patent Application PA 2000 01027, filed Jun. 30, 2000; U.S. Provisional Application No. 60/217,497, filed Jul. 11, 2000; PCT Application PCT/DK00/00743, filed Dec. 29, 2000; PCT Application PCT/DK01/00090, filed Feb. 9, 2001; Danish Patent Application PA 2000 01092, filed Jul. 14, 2000; and U.S. Provisional Application No. 60/225,558, filed Aug. 16, 2000, the specifications of which are each incorporated in their entirety for all purposes.

---------- KWIC ---------

Summary of Invention Paragraph - BSTX (13):

[0012] Matsuura et al. (1999) Nature Biotechnology 17: 58-61 disclose the use of random elongation mutagenesis for improving thermostability of a non-glycosylated microbial catalase. The random elongation **mutagenesis is conducted in the C-terminal end of the catalase**.

PGPUB-DOCUMENT-NUMBER: 20030031683

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20030031683 A1

TITLE: Recombinant vaccines comprising immunogenic attenuated bacteria having RpoS positive phenotype

PUBLICATION-DATE: February 13, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Curtiss, Roy III	St. Louis	MO	US	
Nickerson, Cheryl A.	River Ridge	LA	US	

APPL-NO: 10/ 138239

DATE FILED: May 3, 2002

RELATED-US-APPL-DATA:

child 10138239 A1 20020503

parent continuation-of 09314062 19990518 US GRANTED

parent-patent 6383496 US

child 09314062 19990518 US

parent continuation-in-part-of 08970789 19971114 US GRANTED

parent-patent 6024961 US

US-CL-CURRENT: 424/200.1, 424/258.1 , 424/93.2 , 435/252.3 , 435/252.8 , 435/471 , 435/897

ABSTRACT:

Attenuated immunogenic bacteria having an RpoS.sup.+ phenotype, in particular, Salmonella enterica serotype Typhi having an RpoS.sup.+ phenotype and methods therefor are disclosed. The Salmonella have in addition to an RpoS.sup.+ phenotype, an inactivating mutation in one or more genes which render the microbe attenuated, and a recombinant gene capable of expressing a desired protein. The Salmonella are attenuated and have high immunogenicity so that they can be used in vaccines and as delivery vehicles for genes and gene products. Also disclosed are methods for preparing the vaccine delivery vehicles.

---------- KWIC ---------

Detail Description Paragraph - DETX (145):

[0183] Those Salmonella known to have a wild-type rpoS gene showed **catalase activity, whereas, those strains having a mutation in the rpoS gene showed no catalase** activity. Results with glycogen activity testing agreed with catalase testing with the exception that MGN-431, which has an rpoS gene and was catalase positive, nevertheless, gave negative results in the glycogen test. This is undoubtedly due to the fact that glycogen synthesis is also dependant on crp gene function.

PGPUB-DOCUMENT-NUMBER: 20030003555

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20030003555 A1

TITLE: 90 human secreted proteins

PUBLICATION-DATE: January 2, 2003

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Ruben, Steven M.	Olney	MD	US	
Soppet, Daniel R.	Centreville	VA	US	
Ebner, Reinhard	Gaithersburg	MD	US	
Olsen, Henrik S.	Gaithersburg	MD	US	
Young, Paul E.	Gaithersburg	MD	US	
Greene, John M.	Gaithersburg	MD	US	
Ferrie, Ann M.	Tewksbury	MA	US	
Yu, Guo-Liang	Berkeley	CA	US	
Ni, Jian	Rockville	MD	US	
Rosen, Craig A.	Laytonsville	MD	US	
Brewer, Laurie A.	St. Paul	MN	US	
Janat, Fouad	Westerly	RI	US	

APPL-NO: 09/ 774639

DATE FILED: February 1, 2001

RELATED-US-APPL-DATA:

child 09774639 A1 20010201

parent continuation-of 09244112 19990204 US ABANDONED

child 09244112 19990204 US

parent continuation-in-part-of PCT/US98/16235 19980804 US UNKNOWN

non-provisional-of-provisional 60055386 19970805 US

non-provisional-of-provisional 60054807 19970805 US

non-provisional-of-provisional 60055312 19970805 US

non-provisional-of-provisional 60055309 19970805 US

non-provisional-of-provisional 60054798 19970805 US

non-provisional-of-provisional 60055310 19970805 US

non-provisional-of-provisional 60054806 19970805 US

non-provisional-of-provisional 60054809 19970805 US

non-provisional-of-provisional 60054804 19970805 US

non-provisional-of-provisional 60054803 19970805 US

non-provisional-of-provisional 60054808 19970805 US

non-provisional-of-provisional 60055311 19970805 US

non-provisional-of-provisional 60055986 19970818 US

non-provisional-of-provisional 60055970 19970818 US

non-provisional-of-provisional 60056563 19970819 US

non-provisional-of-provisional 60056557 19970819 US

non-provisional-of-provisional 60056731 19970819 US

non-provisional-of-provisional 60056365 19970819 US

non-provisional-of-provisional 60056367 19970819 US

non-provisional-of-provisional 60056370 19970819 US

non-provisional-of-provisional 60056364 19970819 US

non-provisional-of-provisional 60056366 19970819 US

non-provisional-of-provisional 60056732 19970819 US

non-provisional-of-provisional 60056371 19970819 US

US-CL-CURRENT: 435/183, 435/320.1 , 435/325 , 435/6 , 435/69.1 , 530/388.1 , 536/23.2

ABSTRACT:

The present invention relates to novel human secreted proteins and isolated nucleic acids containing the coding regions of the genes encoding such proteins. Also provided are vectors, host cells, antibodies, and recombinant methods for producing human secreted proteins. The invention further relates to diagnostic and therapeutic methods useful for diagnosing and treating disorders related to these novel human secreted proteins.

FIELD OF THE INVENTION

[0001] This application is a continuation-in-part of, and claims benefit under 35 U.S.C. .sctn.120 of copending U.S. patent application Ser. No: PCT/US98/16235 filed Aug. 4, 1998, which is hereby incorporated by reference,

which claims benefit under 35 U.S.C. .sctn.119(e) based on U.S. Provisional Applications:

1 Filing Date Appln No. 1. 05-Aug-1997 60/055,386 2. 05-Aug-1997 60/054,807 3. 05-Aug-1997 60/055,312 4. 05-Aug-1997 60/055,309 5. 05-Aug-1997 60/054,798 6. 05-Aug-1997 60/055,310 7. 05-Aug-1997 60/054,806 8. 05-Aug-1997 60/054,809 9. 05-Aug-1997 60/054,804 10. 05-Aug-1997 60/054,803 11. 05-Aug-1997 60/054,808 12. 05-Aug-1997 60/055,311 13. 18-Aug-1997 60/055,986 14. 18-Aug-1997 60/055,970 15. 19-Aug-1997 60/056,563 16. 19-Aug-1997 60/056,557 17. 19-Aug-1997 60/056,731 18. 19-Aug-1997 60/056,365 19. 19-Aug-1997 60/056,367 20. 19-Aug-1997 60/056,370 21. 19-Aug-1997 60/056,364 22. 19-Aug-1997 60/056,366 23. 19-Aug-1997 60/056,732 24. 19-Aug-1997 60/056,371

---------- KWIC ---------

Summary of Invention Paragraph - BSTX (571):

[0569] Since the gene is expressed in cells of lymphoid origin, the natural gene product may be involved in immune functions. Therefore it may be also used as an agent for immunological disorders including arthritis, asthma, immune deficiency diseases such as AIDS, leukemia, rheumatoid arthritis, inflammatory bowel disease, sepsis, acne, and psoriasis, and tissues. In addition, this gene product may have commercial utility in the expansion of stem cells and committed progenitors of various blood lineages, and in the differentiation and/or proliferation of various cell types. Alternatively, the homology to catalase indicates that polynucleotides and polypeptides corresponding to this gene are useful for the study, detection, treatment,and/or prevention of a variety of metabolic disorders. As elevated levels of peroxide in cells and tissues leads to oxidative damage, largely through the generation of oxide free-radicals, **mutations within the catalase** gene may lead to the accumulation of cellular mutations over time and could predispose an individual to cancer or other disorder and disease. Protein, as well as, antibodies directed against the protein may show utility as a tumor marker and/or immunotherapy targets for the above listed tissues.

PGPUB-DOCUMENT-NUMBER: 20020182588

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020182588 A1

TITLE: Induction of apoptosis by cellular stress

PUBLICATION-DATE: December 5, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Kufe, Donald W.	Wellesley	MA	US	
Kaddurah-Daouk, Rima	Belmont	MA	US	
Weichselbaum, Ralph R.	Chicago	IL	US	

APPL-NO: 10/ 125003

DATE FILED: April 18, 2002

RELATED-US-APPL-DATA:

non-provisional-of-provisional 60284785 20010418 US

US-CL-CURRENT: 435/4, 435/6 , 435/7.21

ABSTRACT:

The invention provides methods of screening to identify compounds that modulate the ability of a protein to translocate to the mitochondria when a cell is subjected to cellular stress. Such compounds can be useful to modulate the level of apoptosis in a cell. For example, compounds identified according to the methods described herein can be used to treat disorders characterized by excessive apoptosis, e.g., a neurological disorder, or insufficient apoptosis, e.g., cancer.

CROSS REFERENCE TO RELATED APPLICATIONS

[0001] This application claims priority from U.S. Provisional Application Serial No. 60/284,785, filed Apr. 18, 2001. The entire content of the prior application us incorporated herein by reference.

---------- KWIC ---------

Detail Description Paragraph - DETX (148):

[0249] To define potential phosphorylation sites, catalase was incubated with c-Abl and then subjected to tryptic digestion. Analysis of the fragments by HPLC separation and Edmon sequencing demonstrated phosphorylation of Y231

and Y386. Compared to wild-type **catalase, mutation** of Y231 to F resulted in a decrease in c-Abl-mediated tyrosine phosphorylation. A similar decrease in tyrosine phosphorylation was observed with the **catalase (Y386F) mutant**. The results also show that, in the presence of MG132, Arg-mediated tyrosine phosphorylation of ubiquitinated **catalase is decreased for the Y231F and Y386F mutants**. These findings indicate that catalase is phosphorylated on Y231 and Y386 by c-Abl and Arg and that these modifications are necessary for ubiquitination of catalase.

Detail Description Paragraph - DETX (150):

[0251] To determine whether catalase stability is directly regulated by c-Abl and Arg, expression of Flag-tagged catalase was compared to that of Flag-catalase (Y231F) and Flag-catalase(Y386F). Levels of the two Y->F **mutants were higher than that found with wild-type catalase**. Moreover, mutation of the PFNP motif to abrogate c-Abl and Arg binding resulted in increased catalase expression. In concert with these results, stability of **catalase was increased by mutation** of the Y231, Y386 or P293 sites. Ubiquitination of catalase(Y231F) and catalase(Y386F) was also substantially decreased compared to that of wild-type catalase. Similar results were obtained with the **catalase(P293A) mutant**.

Detail Description Paragraph - DETX (151):

[0252] To further define the effects of c-Abl, anti-Flag immunoprecipitates were analyzed from cells expressing Flag-catalase and Myc-tagged c-Abl. Ubiquitination of wild-type Flag-catalase was increased by c-Abl. By contrast, c-Abl had little effect on ubiquitination of the **catalase mutants**. Arg also increased ubiquitination of wild-type **catalase, but not the Y.fwdarw.F or P.fwdarw.A mutants**. These results demonstrate that tyrosine phosphorylation of catalase by c-Abl and Arg regulates catalase ubiquitination and stability.

PGPUB-DOCUMENT-NUMBER: 20020176885

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020176885 A1

TITLE: Physiologically balanced, ionized, acidic solution and methodology for use in wound healing

PUBLICATION-DATE: November 28, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Najafi, Ramin	Novato	CA	US	
Bernard, Suzanne M.	San Francisco	CA	US	

APPL-NO: 10/ 117667

DATE FILED: April 4, 2002

RELATED-US-APPL-DATA:

child 10117667 A1 20020404

parent continuation-of 09482159 20000112 US GRANTED

parent-patent 6426066 US

US-CL-CURRENT: 424/443, 424/677

ABSTRACT:

Described herein is a physiologically-balanced, ionized, acidic solution. Typically the solution is prepared by the electrolysis of a solution comprising a mixture of inorganic salts in physiologically balanced proportions. This invention also relates to a methodology for use of the solutions, including a specialized bandage which may be used in combination with the solutions, or with other topically applied materials. A mixture of inorganic salts and, optionally minerals, (such as metallic elements, for example and not by way of limitation) is used in order to mimic the electrolyte concentration and mixture of body fluid in an isotonic state. The solution typically comprises halide salts of sodium, potassium, calcium, and other cations. Typically the halide is fluoride, chloride, bromide, or iodide, and most typically chloride. The concentrations of these salts in combination with particular minerals are such that they give the electrolyzed composition its unique properties. A typical electrolyzed solution of the present invention has a pH within the range of about 2 to about 6, an oxidation reduction potential within the range of about +600 mV to about +1200 mV, and a titratable halide content within the range of about 10 ppm to about 100 ppm. The electrolyzed, halide-comprising solution has a typical oxidation reduction potential (ORP) of about +600 to +1200 mV. The pH of the electrolyzed, chlorine-comprising solution is typically lowered to

about 6 or less, giving the solution bactericidal, fungicidal, and sporicidal properties. The halide-comprising acidic solution is physiologically balanced by the inclusion of elements such as sodium, potassium, magnesium, zinc, lithium, and beryllium in the solution. The composition of the invention is nontoxic and has antibacterial properties. The composition is useful in any application in which antimicrobial properties are desirable. The composition of the invention can be incorporated into a bandage or wound dressing. Preferably, the bandage is a specialized bandage including an opening which can be opened and closed, and through which topical treatment materials such as the solution of the present invention may be applied.

---------- KWIC ---------

Detail Description Paragraph - DETX (33):

[0063] Antimicrobial efficacy of electrolyzed acidic water was tested against microorganisms including Pseudomonas aeruginosa, Escherichia coli, Staphylococcus aureus, Listeria monocytogenes 10403s wild type, **catalase-deficient mutant** L. monocytogenes LM1370, Aspergillus niger (spores), Penecillium oblatum (spores), Lactobacillus, and E. coli 0157:H7. Up to 5 logs of reduction in the activity of the microorganisms was achieved after 10 to 60 seconds of exposure to electrolyzed acidic water.

PGPUB-DOCUMENT-NUMBER: 20020102680

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020102680 A1

TITLE: Catalases

PUBLICATION-DATE: August 1, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Robertson, Dan E.	Solana Beach	CA	US	
Sanyal, Indrajit	Bethesda	MD	US	
Adhikari, Robert	Voorhees	NJ	US	

APPL-NO: 09/ 884889

DATE FILED: June 19, 2001

RELATED-US-APPL-DATA:

child 09884889 A1 20010619

parent continuation-in-part-of 09412347 19991005 US PENDING

child 09412347 19991005 US

parent continuation-of 08951844 19971016 US PATENTED

child 08951844 19971016 US

parent division-of 08674887 19960703 US PATENTED

US-CL-CURRENT: 435/183, 435/320.1 , 435/325 , 435/69.1 , 536/23.2

ABSTRACT:

The invention relates to catalases and to polynucleotides encoding the catalases. In addition methods of designing new catalases and method of use thereof are also provided. The catalases have increased activity and stability at increased pH and temperature.

RELATED APPLICATIONS

[0001] This application claims the benefit of U.S. Application Ser. No. 09/412,347, filed Oct. 5, 1999, now pending; which is a continuation of U.S. Application Ser. No. 08/951,844, filed Oct. 16, 1997, now issued U.S. Pat. No. 6,074,860; which is a divisional of U.S. Application Ser. No. 08/674,887, filed Jul. 3, 1996, now U.S. Pat. No. 5,939,300.

---------- KWIC ---------

Summary of Invention Paragraph - BSTX (10):

[0008] In yet another aspect, the invention provides an isolated nucleic acid encoding a polypeptide having a sequence as set forth in SEQ ID Nos: 6 or 8 (hereinafter referred to as "Group B amino acid sequences"), and **variants thereof encoding a polypeptide having catalase** activity and having at least 50% sequence identity to such sequences.

Detail Description Paragraph - DETX (36):

[0063] In one exemplification, the invention provides for the chimerization of a family of related genes and their encoded family of related products. In a particular exemplification, the encoded products are enzymes. The **catalases of the present invention can be mutagenized** in accordance with the methods described herein.

PGPUB-DOCUMENT-NUMBER: 20020068310

PGPUB-FILING-TYPE: new

DOCUMENT-IDENTIFIER: US 20020068310 A1

TITLE: Method and reagant for quantitative determination of 1,5-anhydroglucitol

PUBLICATION-DATE: June 6, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	COUNTRY	RULE-47
Sasaki, Mihoko	Sunto-gun		JP	
Tazoe, Sakae	Tokyo		JP	
Miike, Akira	Sunto-gun		JP	

APPL-NO: 09/ 971030

DATE FILED: October 5, 2001

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	DOC-ID	APPL-DATE
JP	310685/00	2000JP-310685/00	October 11, 2000

US-CL-CURRENT: 435/14

ABSTRACT:

The present invention provides a method for determining 1,5-anhydroglucitol (1,5-AG) in a sample containing 1,5-AG, maltose and glucose, which comprises: converting maltose in the sample into glucose using an enzyme system capable of converting maltose into glucose; converting glucose into a compound which is not phosphorylated by 1,5-anhydroglucitol 6-phosphorylating enzyme system (AG-6P-ES) or dehydrogenated by the action of 1,5-anhydroglucitol-6-phosphate dehydrogenase (AG-6PDH), using an enzyme system capable of converting glucose into said compound; converting 1,5-AG into 1,5-anhydroglucitol-6-phosphate (1,5-AG-6P) using the AG-6P-ES; dehydrogenating the formed 1,5-AG-6P with AG-6PDH in the presence of an oxidized coenzyme; and determining the component formed or reduced by the dehydrogenation reaction. A reagent and a reagent kit useful in this method are also provided.

---------- KWIC ---------

Summary of Invention Paragraph - BSTX (17):

[0015] (4) The method according to (1), wherein enzyme system (B) is selected from the group consisting of (a) glucose 6-phosphorylating enzyme system (hereinafter referred to as G-6P-ES), phosphohexose isomerase,

6-phosphofructokinase and NTP, (b) glucose oxidase, (c) glucose oxidase and **mutarotase, (d) glucose oxidase and catalase, and (e) glucose oxidase, mutarotase and catalase**.

Summary of Invention Paragraph - BSTX (18):

[0016] (5) The method according to (1), wherein the AG-6P-ES is selected from the group consisting of (a) hexokinase and NTP, (b) glucokinase and NTP, and (c) NDP-dependent hexokinase and NDP; enzyme system (A) is selected from the group consisting of (a) .alpha.-glucosidase, (b) maltose phosphorylase and inorganic phosphorus, and (c) maltose phosphorylase, inorganic phosphorus and maltose 1-epimerase; and enzyme system (B) is selected from the group consisting of (a) G-6P-ES, phosphohexose isomerase, 6-phosphofructokinase and NTP, (b) glucose oxidase, (c) glucose oxidase and **mutarotase, (d) glucose oxidase and catalase, and (e) glucose oxidase, mutarotase and catalase**.

Summary of Invention Paragraph - BSTX (30):

[0028] (13) The reagent according to (10), wherein enzyme system (B) is selected from the group consisting of (a) G-6P-ES, phosphohexose isomerase, 6-phosphofructokinase and NTP, (b) glucose oxidase, (c) glucose oxidase and **mutarotase, (d) glucose oxidase and catalase, and (e) glucose oxidase, mutarotase and catalase**.

Summary of Invention Paragraph - BSTX (31):

[0029] (14) The reagent according to (10), wherein the AG-6P-ES is selected from the group consisting of (a) hexokinase and NTP, (b) glucokinase and NTP, and (c) NDP-dependent hexokinase and NDP; enzyme system (A) is selected from the group consisting of (a) .alpha.-glucosidase, (b) maltose phosphorylase and inorganic phosphorus, and (c) maltose phosphorylase, inoganic phosphorus and maltose 1-epimerase; and enzyme system (B) is selected from the group consisting of (a) G-6P-ES, phosphohexose isomerase, 6-phosphofructokinase and NTP, (b) glucose oxidase, (c) glucose oxidase and **mutarotase, (d) glucose oxidase and catalase, and (e) glucose oxidase, mutarotase and catalase**.

Summary of Invention Paragraph - BSTX (50):

[0048] a first container which contains a reagent for the conversion of maltose into glucose comprising enzyme system (A) capable of converting maltose into glucose, a reagent for the elimination of glucose comprising enzyme system (B) selected from the group consisting of (b) glucose oxidase, (c) glucose oxidase and **mutarotase, (d) glucose oxidase and catalase, and (e) glucose oxidase, mutarotase and catalase,** and NTP or NDP and an oxidized coenzyme; and

Summary of Invention Paragraph - BSTX (54):

[0052] (25) The reagent kit according to any of (17) to (20), wherein enzyme system (B) is selected from the group consisting of (a) G-6P-ES, phosphohexose isomerase, 6-phosphofructokinase and NTP, (b) glucose oxidase, (c) glucose oxidase and **mutarotase, (d) glucose oxidase and catalase, and (e) glucose oxidase, mutarotase and catalase**.

Summary of Invention Paragraph - BSTX (55):

[0053] (26) The reagent kit according to any of (17) to (20), wherein the AG-6P-ES is selected from the group consisting of (a) hexokinase and NTP, (b) glucokinase and NTP, and (c) NDP-dependent hexokinase and NDP; enzyme system (A) is selected from the group consisting of (a) .alpha.-glucosidase, (b) maltose phosphorylase and inorganic phosphorus, and (c) maltose phosphorylase, inoganic phosphorus and maltose 1-epimerase; and enzyme system (B) is selected from the group consisting of (a) G-6P-ES, phosphohexose isomerase, 6-phosphofructokinase and NTP, (b) glucose oxidase, (c) glucose oxidase and **mutarotase, (d) glucose oxidase and catalase, and (e) glucose oxidase, mutarotase and catalase**.

Detail Description Paragraph - DETX (7):

[0079] Enzyme system (B) comprises enzymes capable of converting glucose into a compound which is not phosphorylated by AG-6P-ES or dehydrogenated by AG-6PDH and components necessary for the enzyme reaction such as coenzymes. Examples of enzyme system (B) include (a) G-6P-ES, phosphohexose isomerase, 6-phosphofructokinase and NTP, (b) glucose oxidase (EC 1.1.3.4), (c) glucose oxidase and **mutarotase, (d) glucose oxidase and catalase, and (e) glucose oxidase, mutarotase and catalase**.

Detail Description Paragraph - DETX (37):

[0109] The following enzymes used in the present invention are all known ones and are commercially available or easily producible: .alpha.-glucosidase, maltose 1-epimerase, maltose phosphorylase, NDP-dependent hexokinase such as ADP-dependent hexokinase, hexokinase, phosphohexose isomerase, 6-phosphofructokinase, **mutarotase, glucose oxidase, catalase,** 1,5-anhydroglucitol-6-phosphate dehydrogenase, diaphorase, NAD(P)H oxidase and peroxidase.

Claims Text - CLTX (5):

4. The method according to claim 1, wherein enzyme system (B) is selected from the group consisting of (a) glucose 6-phosphorylating enzyme system (hereinafter referred to as G-6P-ES), phosphohexose isomerase, 6-phosphofructokinase and NTP, (b) glucose oxidase, (c) glucose oxidase and **mutarotase, (d) glucose oxidase and catalase, and (e) glucose oxidase, mutarotase and catalase**.

Claims Text - CLTX (6):

5. The method according to claim 1, wherein the AG-6P-ES is selected from the group consisting of (a) hexokinase and NTP, (b) glucokinase and NTP, and (c) NDP-dependent hexokinase and NDP; enzyme system (A) is selected from the group consisting of (a) .alpha.-glucosidase, (b) maltose phosphorylase and inorganic phosphorus, and (c) maltose phosphorylase, inorganic phosphorus and maltose 1-epimerase; and enzyme system (B) is selected from the group consisting of (a) G-6P-ES, phosphohexose isomerase, 6-phosphofructokinase and NTP, (b) glucose oxidase, (c) glucose oxidase and **mutarotase, (d) glucose oxidase and catalase, and (e) glucose oxidase, mutarotase and catalase**.

Claims Text - CLTX (14):

13. The reagent according to claim 10, wherein enzyme system (B) is selected from the group consisting of (a) G-6P-ES, phosphohexose isomerase, 6-phosphofructokinase and NTP, (b) glucose oxidase, (c) glucose oxidase and **mutarotase, (d) glucose oxidase and catalase, and (e) glucose oxidase, mutarotase and catalase**.

Claims Text - CLTX (15):

14. The reagent according to claim 10, wherein the AG-6P-ES is selected from the group consisting of (a) hexokinase and NTP, (b) glucokinase and NTP, and (c) NDP-dependent hexokinase and NDP; enzyme system (A) is selected from the group consisting of (a) .alpha.-glucosidase, (b) maltose phosphorylase and inorganic phosphorus, and (c) maltose phosphorylase, inoganic phosphorus and maltose 1-epimerase; and enzyme system (B) is selected from the group consisting of (a) G-6P-ES, phosphohexose isomerase, 6-phosphofructokinase and NTP, (b) glucose oxidase, (c) glucose oxidase and **mutarotase, (d) glucose oxidase and catalase, and (e) glucose oxidase, mutarotase and catalase**.

Claims Text - CLTX (23):

22. A reagent kit for the determination of 1,5-AG, comprising: a first container which contains a reagent for the conversion of maltose into glucose comprising enzyme system (A) capable of converting maltose into glucose, a reagent for the elimination of glucose comprising enzyme system (B) selected from the group consisting of (b) glucose oxidase, (c) glucose oxidase and **mutarotase, (d) glucose oxidase and catalase, and (e) glucose oxidase, mutarotase and catalase,** and NTP or NDP and an oxidized coenzyme; and a second container which contains an enzyme capable of converting 1,5-AG into 1,5-AG-6P, and AG-6PDH.

Claims Text - CLTX (26):

25. The reagent kit according to any of claims 17 to 20, wherein enzyme system (B) is selected from the group consisting of (a) G-6P-ES, phosphohexose

isomerase, 6-phosphofructokinase and NTP, (b) glucose oxidase, (c) glucose oxidase and **mutarotase, (d) glucose oxidase and catalase, and (e) glucose oxidase, mutarotase and catalase**.

Claims Text - CLTX (27):

26. The reagent kit according to any of claims 17 to 20, wherein the AG-6P-ES is selected from the group consisting of (a) hexokinase and NTP, (b) glucokinase and NTP, and (c) NDP-dependent hexokinase and NDP; enzyme system (A) is selected from the group consisting of (a) .alpha.-glucosidase, (b) maltose phosphorylase and inorganic phosphorus, and (c) maltose phosphorylase, inoganic phosphorus and maltose 1-epimerase; and enzyme system (B) is selected from the group consisting of (a) G-6P-ES, phosphohexose isomerase, 6-phosphofructokinase and NTP, (b) glucose oxidase, (c) glucose oxidase and **mutarotase, (d) glucose oxidase and catalase, and (e) glucose oxidase, mutarotase and catalase**.

US-PAT-NO: 6486113

DOCUMENT-IDENTIFIER: US 6486113 B1

TITLE: Mutant .alpha.-amylases

DATE-ISSUED: November 26, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Hatada; Yuji	Tochigi	N/A	N/A	JP
Ikawa; Kaori	Tochigi	N/A	N/A	JP
Ito; Susumu	Tochigi	N/A	N/A	JP
Igarashi; Kazuaki	Tochigi	N/A	N/A	JP
Hagihara; Hiroshi	Tochigi	N/A	N/A	JP
Hayashi; Yasuhiro	Tochigi	N/A	N/A	JP
Araki; Hiroyuki	Tochigi	N/A	N/A	JP
Ozaki; Katsuya	Tochigi	N/A	N/A	JP

APPL-NO: 09/ 381687

DATE FILED: September 23, 1999

PARENT-CASE:

This application is the national phase under 35 U.S.C. .sctn.371 of PCT International Application No. PCT/JP98/01464 which has an International filing date of Mar. 31, 1998 which designated the United States of America.

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
JP	9-080299	March 31, 1997

PCT-DATA:
APPL-NO: PCT/JP98/01464
DATE-FILED: March 31, 1997
PUB-NO: WO98/44126
PUB-DATE: Oct 8, 1998
371-DATE: Sep 23, 1999
102(E)-DATE:Sep 23, 1999

US-CL-CURRENT: 510/392, 435/113 , 435/187 , 435/202 , 435/204 , 435/263 , 435/440 , 435/442 , 510/300 , 510/320 , 510/530

ABSTRACT:

The invention relates to a mutant .alpha.-amylase having an amino acid sequence obtained by making deletion or replacement by another arbitrary amino acid residue of at least a methionine residue at the 202-position or a position homologous thereto among amino acid residues set forth in SEQ ID NO:1, which

constitute a liquefying alkaline .alpha.-amylase, a gene thereof, and a detergent composition comprising the mutant .alpha.-amylase. The mutant .alpha.-amylase has the optimum pH in an alkaline range, an excellent .alpha.-amylase activity, and high and lasting resistance to oxidizing agents, and is hence particularly useful as a component of detergent compositions containing a bleaching agent and an oxidizing agent.

10 Claims, 31 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 14

---------- KWIC ---------

Detailed Description Text - DETX (32):

The detergent composition according to the present invention may comprise one or more enzymes selected from debranching enzymes (pullulanase, isoamylase, neopullulanase, etc.), .alpha.-glycosidases, glucoamylases, proteases, cellulases, lipases, pectinases, protopectinases, pectic acid lyases, peroxidases, laccases and **catalases in addition to the above-described mutant** .alpha.-amylases.

US-PAT-NO: 6468545

DOCUMENT-IDENTIFIER: US 6468545 B1

TITLE: Treatment and prevention of helicobacter infection

DATE-ISSUED: October 22, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Doidge; Christopher V.	Vincent	N/A	N/A	AU
Lee; Adrian	Lane Cove	N/A	N/A	AU
Radcliff; Fona J.	Sydney	N/A	N/A	AU
Hazell; Stuart L.	Glenfield	N/A	N/A	AU

APPL-NO: 09/ 421238

DATE FILED: October 20, 1999

PARENT-CASE:

CROSS-REFERENCE TO RELATED APPLICATIONS

This application is a continuation of application Ser. No. 08/695,987, filed Aug. 15, 1996 now U.S. Pat. No. 6,005,090, which is a Continuation-In-Part of PCT/AU95/00335, filed Jun. 8, 1995.

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
AU	PM 6124	June 8, 1994

US-CL-CURRENT: 424/234.1, 435/252.1 , 435/34 , 435/69.1 , 536/23.4 , 536/23.5

ABSTRACT:

An antigenic preparation for use in the treatment of prevention of Helicobacter infection in a mammalian host, comprises the catalase enzyme of Helicobacter bacterial, particularly the catalase enzyme of H. pylori or H. felis, or an immunogenic fragment thereof.

20 Claims, 0 Drawing figures

Exemplary Claim Number: 1

---------- KWIC ---------

Detailed Description Text - DETX (60):

References 1. Helicobacter pylori Biology and Clinical Practice (1993). Edited by C. Stewart Goodwin and Bryan W. Worsley. Published by CRC Press. 2. Halter, F., Hurlimann, S. and Inauen, W. (1992). Pathophysiology and clinical relevance of Helicobacter pylori. The Yale Journal of Biology and Medicine, 65:625-638. 3. Lee, A., Fox, J. G., Otto, G. and Murphy, J. (1990). A small animal model of human Helicobacter pylori active chronic gastritis. Gastroenterology, 99:1316-1323. 4. Doidge, C. G., Gust, I., Lee, A., Buck, F., Hazel, S. and Mane, U. (1994). Therapeutic immunisation against Helicobacter pylori--The first evidence. Lancet 343(i):914-915. 5. Clayton, C. L., Pallen, M. J., Kleanthous, H., Wren, B. W. and Tabaqchali, S. (1990). Nucleotide sequence of two genes from Helicobacter pylori encoding for urease subunits. Nucleic Acid Res., 18(2):362 6. Westblom, T. U., Phadnis, S., Langenberg, W., Yondea, K., Madan, E. and Midkiff, B. R. (1992). **Catalase negative mutants** of Helicobacter pylori. European Journal of Clinical Microbiology and Infectious Diseases, 11:522-526. 7. Cox, J. and Coulter, A. (1992). Advances in adjuvant technology and application. In Animal Parasite Control Using Biotechnology. Edited by W. K. Yong. Published by CRC Press. 8. Holmgren, J., Czerkinsky, C., Lycke, N. and Svennerholm, A. M. (1992). Mucosal Immunity: Implications for Vaccine Development, Immunobiol. 184 157-179. 9. McGhee, J. R., Mestecky, J., Dertzbaugh, M. T., Eldridge, J. H., Hirasawa, M. and Kiyono, H. (1992). The mucosal immune system: from fundamental concepts to vaccine development. Vaccine 10(2):75-88. 10. Hazell, S. L., Evans Jr., D. J. and Graham, D. Y. (1991). Helicobacter pylori catalase. J. Gen. Microbiol. 137:57-61. 11. Majewski, S. L. H., and Goodwin, C. S. (1988). Restriction endonuclease analysis of the genome of Campylobacter pylori with a rapid extraction method: evidence for considerable genomic variation. J. Inf. Dis. 157(3):465-471. 12. Sambrook, J., Fritsch, E. F. and Maniatis, T. (1989). Molecular Cloning: A Laboratory Manual, 2nd edn. Cold Spring Harbor, N.Y.: Cold Spring Harbor Laboratory Press. 13. Towbin, H., Staehelin, T. and Gordon, J. (1979). Electrophoretic transfer of proteins from polyacrylamide gels to nitrocellulose sheets: procedure and some applications. Proc.Natl.Acad. Sci. USA 74:4350-4354. 14. Sanger, F., Nicklen, S. and Coulson, A. R. (1977). DNA sequencing with chain-terminating inhibitors. Proc.Natl. Acad. Sci. USA 74:5463-5467. 15. Corthesy-Theulaz, I, Porta, N., Glauser, M. Saraga, E., Vaney, A. C., Haas, R., Kraehenbuhl, J. P., Blum, A. L. and Michetti, P., (1995). Oral Immunisation With Helicobacter pylori Urease B Subunit as a Treatment Against Helicobacter Infection in Mice. Gastroenterology 109:115-121.

US-PAT-NO: 6426066

DOCUMENT-IDENTIFIER: US 6426066 B1

TITLE: Use of physiologically balanced, ionized, acidic solution in wound healing

DATE-ISSUED: July 30, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Najafi; Ramin	Novato	CA	N/A	N/A
Bernard; Suzanne M.	San Francisco	CA	N/A	N/A

APPL-NO: 09/ 482159

DATE FILED: January 12, 2000

US-CL-CURRENT: 424/78.04, 424/613 , 424/661 , 424/78.06 , 424/78.07

ABSTRACT:

A physiologically-balanced, ionized, acidic solution. The solution may be prepared by the electrolysis of a solution comprising a mixture of inorganic salts in physiologically balanced proportions. A mixture of inorganic salts and, optionally, minerals (such as metallic elements, for example, and not by way of limitation) is used in order to mimic the electrolyte concentration and mixture of body fluid in an isotonic state. The solution typically comprises halide salts of sodium, potassium, calcium, and other cations. Typically the halide is fluoride, chloride, bromide, or iodide; and most typically chloride. The halide-comprising acidic solution is physiologically balanced by the inclusion of elements such as sodium, potassium, magnesium, zinc, lithium, and beryllium in the solution. The composition of the invention is nontoxic and has antibacterial properties. The composition is useful in any application in which antimicrobial properties are desirable, particularly in the topical application to wounds, burns, etc., and can be incorporated into a bandage or wound dressing.

15 Claims, 7 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 3

---------- KWIC ---------

Detailed Description Text - DETX (33):

Antimicrobial efficacy of electrolyzed acidic water was tested against microorganisms including Pseudomonas aeruginosa, Escherichia coli, Staphylococcus aureus, Listeria monocytogenes 10403s wild type, **catalase-deficient mutant** L. monocytogenes LM1370, Aspergillus niger (spores), Penecillium oblatum (spores), Lactobacillus, and E. coli 0157:H7. Up to 5 logs of reduction in the activity of the microorganisms was achieved after 10 to 60 seconds of exposure to electrolyzed acidic water.

US-PAT-NO: 6383496

DOCUMENT-IDENTIFIER: US 6383496 B1

TITLE: Recombinant vaccines comprising immunogenic attenuated bacteria having RPOS positive phenotype

DATE-ISSUED: May 7, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Curtiss, III; Roy	St. Louis	MO	N/A	N/A
Nickerson; Cheryl A.	River Ridge	LA	N/A	N/A

APPL-NO: 09/ 314062

DATE FILED: May 18, 1999

PARENT-CASE:

This is a continuation-in-part of application Ser. No. 08/970,789, filed Nov. 14, 1997, now U.S. Pat. No. 6,024,961.

US-CL-CURRENT: 424/200.1, 424/258.1 , 424/93.2 , 435/252.3 , 435/252.8 , 435/471 , 435/897

ABSTRACT:

Attenuated immunogenic bacteria having an RpoS.sup.+ phenotype, in particular, Salmonella enterica serotype Typhi having an RpoS.sup.+ phenotype and methods therefor are disclosed. The Salmonella have in addition to an RpoS.sup.+ phenotype, an inactivating mutation in one or more genes which render the microbe attenuated, and a recombinant gene capable of expressing a desired protein. The Salmonella are attenuated and have high immunogenicity so that they can be used in vaccines and as delivery vehicles for genes and gene products. Also disclosed are methods for preparing the vaccine delivery vehicles.

31 Claims, 16 Drawing figures

Exemplary Claim Number: 1,23

Number of Drawing Sheets: 16

---------- KWIC ---------

Detailed Description Text - DETX (142):

Those Salmonella known to have a wild-type rpoS gene showed **catalase activity, whereas, those strains having a mutation in the rpoS gene showed no catalase** activity. Results with glycogen activity testing agreed with catalase testing with the exception that MGN-431, which has an rpoS gene and was catalase positive, nevertheless, gave negative results in the glycogen test. This is undoubtedly due to the fact that glycogen synthesis is also dependant on crp gene function.

US-PAT-NO: 6372424

DOCUMENT-IDENTIFIER: US 6372424 B1

TITLE: Rapid detection and identification of pathogens

DATE-ISSUED: April 16, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Brow; Mary Ann D.	Madison	WI	N/A	N/A
Lyamichev; Victor I.	Madison	WI	N/A	N/A
Olive; David Michael	Madison	WI	N/A	N/A

APPL-NO: 08/ 520946

DATE FILED: August 30, 1995

PARENT-CASE:

This is a Continuing Patent Application of U.S. patent application Ser. No. 08/520,946, filed Aug. 30, 1995, which is a Continuation-in-Part application of U.S. patent application Ser. No. 08/484,956, filed Jun. 7, 1995, now U.S. Pat. No. 5,843,654, issued Dec. 1, 1998, which is a Continuation-in-Part application of U.S. patent application Ser. No. 08/402,601, filed Mar. 9, 1995, now abandoned which is a Continuation-In-Part Application of application Ser. No. 08/337,164, filed Nov. 9, 1994, now abandoned, which is a Continuation-In-Part Application of application Ser. No. 08/254,359, filed Jun. 6, 1994, now U.S. Pat. No. 5,614,402, issued Mar. 25, 1997, which is a Continuation-In-Part Application of application Ser. No. 08/073,384, filed Jun. 4, 1993, now U.S. Pat. No. 5,541,311, issued Jun. 30, 1996, which is a Continuation-In-Part Application of application Ser. No. 07/986,330, filed Dec. 7, 1992, now U.S. Pat. No. 5,422,253.

US-CL-CURRENT: 435/5, 435/6 , 435/69.1 , 435/91.2 , 536/24.3

ABSTRACT:

The present invention relates to means for cleaving a nucleic acid cleavage structure in a site-specific manner. Enzymes, including 5' nucleases and 3' exonucleases, are used to detect and identify nucleic acids derived from microorganisms. Methods are provided which allow for the detection and identification of bacterial and viral pathogens in a sample.

52 Claims, 153 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 124

---------- KWIC ---------

Other Reference Publication - OREF (111):

Cockerill et al., "Rapid Identification of a Point **Mutation of the Mycobacterium tuberculosis Catalase**-Peroxidase (katG) Gene Associated with Isoniazid Resistance," J. Infect. Dis. 171:240 (1995).

US-PAT-NO: 6358691

DOCUMENT-IDENTIFIER: US 6358691 B1

TITLE: Target-dependent reactions using structure-bridging oligonucleotides

DATE-ISSUED: March 19, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Neri; Bruce	Madison	WI	N/A	N/A
Dong; Fang	Madison	WI	N/A	N/A
Lyamichev; Victor	Madison	WI	N/A	N/A
Brow; Mary Ann D.	Madison	WI	N/A	N/A
Fors; Lance	Monrovia	CA	N/A	N/A

APPL-NO: 09/ 677192

DATE FILED: October 2, 2000

PARENT-CASE:

The present invention is a divisional application of Ser. No. 09/034,205, filed Mar. 3, 1998, now U.S. Pat. No. 6,194,149.

US-CL-CURRENT: 435/6, 536/23.1 , 536/24.3

ABSTRACT:

The present invention relates to methods and compositions for analyzing nucleic acids. In particular, the present invention provides methods and compositions for the detection and characterization of nucleic acid sequences and sequence changes. The methods of the present invention permit the detection and/or identification of genetic polymorphism such as those associated with human disease and permit the identification of pathogens (e.g., viral and bacterial strain identification).

11 Claims, 50 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 50

---------- KWIC ---------

Other Reference Publication - OREF (12):

Cockerill, III et al., "Rapid Identification of a Point **Mutation of the Mycobacterium tuberculosis Catalase**-Peroxidase (katG) Gene Associated with Isoniazid Resistance," J. Infect. Dis. 171:240-245 [1995].

US-PAT-NO: 6355437

DOCUMENT-IDENTIFIER: US 6355437 B1

TITLE: Target-dependent reactions using structure-bridging oligonucleotides

DATE-ISSUED: March 12, 2002

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Neri; Bruce	Madison	WI	N/A	N/A
Dong; Fang	Madison	WI	N/A	N/A
Lyamichev; Victor	Madison	WI	N/A	N/A
Brow; Mary Ann D.	Madison	WI	N/A	N/A
Fors; Lance	Monrovia	CA	N/A	N/A

APPL-NO: 09/ 677218

DATE FILED: October 2, 2000

PARENT-CASE:

The present invention is a divisional application of Ser. No. 09/034,205 filed Mar. 3, 1998, now U.S. Pat. No. 6,194,149, and is a continuation-in-part of Ser. No. 08/934,097 filed Sep. 19, 1997, now U.S. Pat. No. 6,210,880.

US-CL-CURRENT: 435/6, 536/23.1 , 536/24.3

ABSTRACT:

The present invention relates to methods and compositions for analyzing nucleic acids. In particular, the present invention provides methods and compositions for the detection and characterization of nucleic acid sequences and sequence changes. The methods of the present invention permit the detection and/or identification of genetic polymorphism such as those associated with human disease and permit the identification of pathogens (e.g., viral and bacterial strain identification).

10 Claims, 80 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 50

---------- KWIC ---------

Other Reference Publication - OREF (12):

Cockerill, III et al., "Rapid Identification of a Point **Mutation of the Mycobacterium tuberculosis Catalase**-Peroxidase (katG) Gene Associated with Isoniazid Resistance," J. Infect. Dis. 171:240-245 [1995].

US-PAT-NO: 6319708

DOCUMENT-IDENTIFIER: US 6319708 B1

TITLE: Method for increasing life-span

DATE-ISSUED: November 20, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Chalfie; Martin	New York	NY	N/A	N/A
Taub; James J.	Neptune	NJ	N/A	N/A
Rothblatt; Jonathan	New York	NY	N/A	N/A
Ma; Charles	New York	NY	N/A	N/A
Hahn; Jang-Hee	Chunchon	N/A	N/A	KR

APPL-NO: 08/ 980241

DATE FILED: November 28, 1997

US-CL-CURRENT: 435/325, 424/94.4 , 435/192 , 435/252.3 , 435/254.2 , 435/320.1 , 435/348 , 435/419 , 514/44 , 536/23.2

ABSTRACT:

This invention provides a composition comprising an amount of a polypeptide effective to increase the life-span of cells wherein the polypeptide has the amino acid sequence of a cytosolic catalase and a suitable carrier. This invention also provides an isolated nucleic acid molecule encoding a cytosolic catalase. This invention also provides a host vector system for the production of a polypeptide having the biological activity of catalase which comprises the above-described vectors in a suitable host. This invention also provides a method for prolonging cell life, comprising: (a) linking the above-described nucleic acids to a regulatory element such that the expression of the above-described nucleic acids is under the control of the regulatory element; and (b) introducing the linked nucleic acid into cells for expression of the nucleic acid, thereby prolonging cell life.

16 Claims, 11 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 10

---------- KWIC ---------

Drawing Description Text - DRTX (6):

FIG. 5 **Catalase activity in N2 and ctl-1 mutant** animals. Catalase activity is reduced more than 50% in the ctl-1 mutant when compared to the N2 wild-type strain. Reduced activity is observed in both larval (L1) and adult stages.

Detailed Description Text - DETX (3):

As used herein the effective amount of the polypeptide will be based upon the size of the polypeptide, the biodegradability of the polypeptide, the bioactivity of the polypeptide and the bioavailability of the polypeptide. If the polypeptide does not degrade quickly, is bioavailable and highly active, a smaller amount will be required to be effective. The effective amount will be known to one of skill in the art; it will also be dependent upon the form of the polypeptide, the size of the polypeptide and the bioactivity of the polypeptide. **Variants of the catalase** with higher activity will require lower dosages than **variants of the catalase** with lower activity. One of skill in the art could routinely perform empirical activity tests to determine the bioactivity in bioassays and thus determine the effective amount.

Detailed Description Text - DETX (6):

Also contemplated are animal model systems which elucidate the physiological roles of cytosolic catalase protein and are produced by creating transgenic animals in which the expression of a cytosolic catalase protein is either increased or decreased, or the amino acid sequence of the expressed cytosolic catalase protein is altered by a variety of techniques. Examples of these techniques include, but are not limited to: 1) Insertion of normal or mutant versions of DNA encoding a C. elegans cytosolic catalase or homologous animal versions of these genes, especially a human homolog of the cytosolic catalase gene, by microinjection, retroviral infection or other means well known to those skilled in the art, into appropriate fertilized embryos in order to produce a transgenic animal (Hogan B. et al. Manipulating the Mouse Embryo, A Laboratory Manual, Cold Spring Harbor Laboratory (1986)) or, 2) Homologous recombination (Capecchi M. R. Science 244:1288-1292 (1989); Zimmer, A. and Gruss, P. Nature 338:150-153 (1989)) of mutant or normal, human or animal versions of these genes with the native gene locus in transgenic animals to alter the regulation of expression or the structure of these cytosolic catalase proteins. The technique of homologous recombination is well known in the art. It replaces the native gene with the inserted gene and so is useful for producing an animal that cannot express the native gene encoding the cytosolic **catalase protein but does express, for example, an inserted mutant gene encoding a mutant cytosolic catalase** protein, which has replaced the native cytosolic catalase gene in the animal's genome by recombination, resulting in underexpression of the cytosolic catalase protein. Microinjection adds genes to the genome, but does not remove them, and so is useful for producing an animal which expresses its own and added cytosolic catalase protein, resulting in overexpression of the cytosolic catalase protein.

Detailed Description Text - DETX (51):

ctl-1(u800) shortens life-span. Using a subtractive cDNA screen (C. Ma and

M. Chalfie, unpub. data), we serendipitously discovered a catalase cDNA whose mRNA was reduced by at least ten fold in the strain TU1061 (data not shown) . Since northern blots of mRNA for strains with known mutations in TU1061 did not show this reduction, none of these genes was responsible for the reduction. The defect was identified as a deletion of a single G in the codon 42 (Arg) of ctl-1 . This change resulted in a stop codon at codon 51. The ctl-1 mutation was outcrossed from TU1061; it is contained in the TU2463 strain. As expected total **catalase activity of the outcrossed mutant** animals is reduced by more than 50%, both as first stage (L1) larvae and as adults when compared to wilde-typetype animals (FIG. 5). The mean life-span of the mutant animals is approximately 30% less than that of wilde-typetype animals at 200 (FIG. 6; 50% survival at 13.2 days for the mutants, 17.2 days for wild type). Moreover, dauer survival was similarly reduced by the ctl-1 mutation (data not shown). ctl-1(u800) is epistatic to daf-c mutations that extend life-span. Double and triple mutants containing daf-c mutations and ctl-1(u800) do not show any life-span extension; they live no longer than animals possessing the ctl-1 defect alone. Specifically 50% of daf-2(e1370); daf-12(m25), daf-23 (mg44), and daf-2 (e1370) animals are alive at 34.4, 21.5 and 23.8 days respectively. The life-spans of ctl-1 (u800); daf-2(e1370); daf-12(m25), daf-23(mg44) ctl-1(u800), and ctl-1(u800); daf-2(e1370) animals are 13.5, 13.2, and 12.8 days (FIG. 6). These results suggest that ctl-1(u800) is epistatic to, i.e., downstream of, the genes in the dauer formation pathway.

US-PAT-NO: 6214545

DOCUMENT-IDENTIFIER: US 6214545 B1

TITLE: Polymorphism analysis by nucleic acid structure probing

DATE-ISSUED: April 10, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Dong; Fang	Madison	WI	N/A	N/A
Lyamichev; Victor I.	Madison	WI	N/A	N/A
Prudent; James R.	Madison	WI	N/A	N/A
Dahlberg; James E.	Madison	WI	N/A	N/A
Fors; Lance	Madison	WI	N/A	N/A

APPL-NO: 08/ 851588

DATE FILED: May 5, 1997

US-CL-CURRENT: 435/6, 536/23.1 , 536/24.3 , 536/24.31 , 536/24.32 , 536/24.33 , 536/24.5

ABSTRACT:

The present invention relates to methods and compositions for analyzing nucleic acids. In particular, the present invention provides methods and compositions for the detection and characterization of nucleic acid sequences and sequence changes. The methods of the present invention permit the detection and/or identification of genetic polymorphism such as those associated with human disease and permit the identification of pathogens (e.g., viral and bacterial strain identification).

26 Claims, 34 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 19

---------- KWIC ---------

Other Reference Publication - OREF (11):

Cockerill, III et al., "Rapid Identification of a Point **Mutation of the Mycobacterium tuberculosis Catalase**-Peroxidase (katG) Gene Associated with Isoniazid Resistance," J. Infect. Dis. 171:240-245 [1995].

US-PAT-NO: 6194149

DOCUMENT-IDENTIFIER: US 6194149 B1

TITLE: Target-dependent reactions using structure-bridging oligonucleotides

DATE-ISSUED: February 27, 2001

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Neri; Bruce	Madison	WI	N/A	N/A
Dong; Fang	Madison	WI	N/A	N/A
Lyamichev; Victor	Madison	WI	N/A	N/A
Brow; Mary Ann D.	Madison	WI	N/A	N/A
Fors; Lance	Monrovia	CA	N/A	N/A

APPL-NO: 09/ 034205

DATE FILED: March 3, 1998

US-CL-CURRENT: 435/6, 536/23.1 , 536/24.3

ABSTRACT:

The present invention relates to methods and compositions for analyzing nucleic acids. In particular, the present invention provides methods and compositions for the detection and characterization of nucleic acid sequences and sequence changes. The methods of the present invention permit the detection and/or identification of genetic polymorphism such as those associated with human disease and permit the identification of pathogens (e.g., viral and bacterial strain identification).

13 Claims, 50 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 50

--------- KWIC ---------

Other Reference Publication - OREF (15):

Cockerill, III et al., "Rapid Identification of a Point **Mutation of the Mycobacterium tuberculosis Catalase**-Peroxidase (katG) Gene Associated with Isoniazid Resistance," J. Infect. Dis. 171:240-245 [1995].

US-PAT-NO: 6124098

DOCUMENT-IDENTIFIER: US 6124098 A

TITLE: Rapid detection of antibiotic resistance in mycobacterium tuberculosis

DATE-ISSUED: September 26, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Heym; Beate	Ville d'Avray	N/A	N/A	FR
Cole; Stewart	Clamart	N/A	N/A	FR
Young; Douglas	Ruislip	N/A	N/A	GB
Zhang; Ying	London	N/A	N/A	GB
Honore; Nadine	Colombes	N/A	N/A	FR
Telenti; Amalio	Gerzensee	N/A	N/A	CH
Bodmer; Thomas	Ersigen	N/A	N/A	CH

APPL-NO: 09/ 082614

DATE FILED: May 20, 1998

PARENT-CASE:

This is a continuation application of U.S. application Ser. No. 08/313,185, filed Oct. 12, 1994, now U.S. Pat. No. 5,851,763, which was the National Stage of International Application No. PCT/EP/01063, filed Apr. 30, 1993, which is a continuation of U.S. application Ser. No. 07/929,206, filed Aug. 14, 1992, now U.S. Pat. No. 5,633,131, which is a continuation-in-part of U.S. application Ser. No. 07/875,940, filed Apr. 30, 1992, now abandoned.

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
FR	92/11098	September 17, 1992
FR	93/04545	April 16, 1993

US-CL-CURRENT: 435/6, 435/7.32 , 435/91.1 , 435/91.2 , 536/23.1 , 536/23.2

ABSTRACT:

A nucleotide sequence encoding a katG/lacZ fusion protein is useful for assaying the enzymatic activity of the katG gene product. A process of selecting a compound that is toxic against an isoniazid-resistant mycobaterial strain comprises incubating a catalase peroxidase enzyme with an isoniazid to produce a compound that restores isoniazid susceptability to the isoniazid-resistant mycobaterial strain.

9 Claims, 18 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 26

---------- KWIC ---------

Detailed Description Text - DETX (6):

This invention demonstrates that it is the catalase-peroxidase enzyme, HPI, which is the INH target, and it is suggested that this enzyme alone mediates toxicity. Compelling evidence of this conclusion was obtained by expression of the M. tuberculosis katg gene (SEQ ID NO:45) in a **catalase-negative mutant** of E.coli as this resulted in this bacterium becoming sensitive to INH. Moreover, the isolation of the M. tuberculosis INH-sensitivity gene, katG, (SEQ ID NO:45) is important as it will facilitate the rapid detection of INH-resistant strains by means of hybridization and PCR-based approaches. The high frequency of katG deletions in clinical strains, as shown here, should simplify this procedure.

Detailed Description Text - DETX (26):

To determine whether the HPI enzyme of M. tuberculosis could confer INH sensitivity on E.coli, a series of **catalase mutants** was transformed with pYZ56 and the MICs determined. Wild type strains were not susceptible to INH, but **mutants lacking both endogenous catalase** activities, but harboring pYZ56, showed growth inhibition when high levels of INH (500 .mu.g/ml) were present, whereas untransformed strains were insensitive.

Detailed Description Text - DETX (66):

On examination of a 200 bp segment of the katG gene from five independent strains (9188, 9106, 9441, 9444, 9363), a single base difference was found. This was the same in all cases, a G to T transversion at position 3360, resulting in the substitution of Arg-461 by Leu. Thus, in addition to inactivation of katG, INH-resistance can stem from mis-sense **mutations that result in an altered catalase** peroxidase. This mutation may define a site of interaction between the drug and the enzyme. The results of DNA sequence studies with the remaining mutants are eagerly awaited.

US-PAT-NO: 6080556

DOCUMENT-IDENTIFIER: US 6080556 A

TITLE: Helicobacter catalase nucleotide sequences, their production and use

DATE-ISSUED: June 27, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Sugiyama; Tosiro	Hokkaido	N/A	N/A	JP
Kawabata; Tomohisa	Osaka	N/A	N/A	JP
Hirayasu; Kazunari	Osaka	N/A	N/A	JP
Tanaka; Takumi	Hyogo	N/A	N/A	JP

APPL-NO: 08/ 657868

DATE FILED: May 31, 1996

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
JP	7-136564	June 2, 1995
JP	8-083512	April 5, 1996

US-CL-CURRENT: 435/69.1, 514/44

ABSTRACT:

Disclosed are amino acid sequences of polypeptides reacting with antibodies to Helicobacter pylori (HP), DNAs coding therefor, vectors containing said DNAs, transformants containing said vectors, a method for preparing said polypeptides by cultivating said transformants, and anti-HP antibody assaying reagents and HP gene detecting reagents comprising said polypeptides, thereby enabling specific, quantitative inspection of HP.

7 Claims, 11 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 6

---------- KWIC ---------

Detailed Description Text - DETX (143):

Furthermore, these results also agree with the report of T. U. Westblom et al. in terms of the HP **mutant showing negative catalase** activity [Eur. J.

Clin. Microbiol. Infect. Dis., 11 (No. 6), 522-526 (1992)].

US-PAT-NO: 6024961

DOCUMENT-IDENTIFIER: US 6024961 A

TITLE: Recombinant avirulent immunogenic S typhi having rpos positive phenotype

DATE-ISSUED: February 15, 2000

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Curtiss, III; Roy	St. Louis	MO	N/A	N/A
Nickerson; Cheryl A.	Chesterfield	MO	N/A	N/A

APPL-NO: 08/ 970789

DATE FILED: November 14, 1997

US-CL-CURRENT: 424/200.1, 424/93.2 , 435/252.3 , 435/252.8 , 435/27 , 435/29 , 435/4 , 435/471

ABSTRACT:

Avirulent immunogenic Salmonella enterica serotype Typhi and methods therefor are disclosed. The Salmonella have an RpoS.sup.+ phenotype, an inactivating mutation in one or more genes which renders the microbe avirulent, and a recombinant gene capable of expressing a desired protein. The Salmonella are avirulent and have high immunogenicity so that they can be used in vaccines and as delivery vehicles for the desired antigen. Also disclosed are methods for preparing the Salmonella and vaccine delivery vehicles therefor.

41 Claims, 10 Drawing figures

Exemplary Claim Number: 1,39

Number of Drawing Sheets: 10

---------- KWIC ---------

Detailed Description Text - DETX (137):

Those Salmonella known to have a wild-type rpoS gene showed **catalase activity, whereas, those strains having a mutation in the rpoS gene showed no catalase** activity. Results with glycogen activity testing agreed with catalase testing with the exception that MGN-431, which has an rpoS gene and was catalase positive, nevertheless, gave negative results in the glycogen test. This is undoubtedly due to the fact that glycogen synthesis is also dependant on crp gene function.

US-PAT-NO: 6005090

DOCUMENT-IDENTIFIER: US 6005090 A

TITLE: Treatment and prevention of helicobacter infection

DATE-ISSUED: December 21, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Doidge; Christopher V.	Vincent	N/A	N/A	AU
Lee; Adrian	Lane Cove	N/A	N/A	AU
Radcliff; Flona J.	Sydney	N/A	N/A	AU
Hazell; Stuart L.	Glenfield	N/A	N/A	AU

APPL-NO: 08/ 695987

DATE FILED: August 15, 1996

PARENT-CASE:

CROSS-REFERENCE TO RELATED APPLICATIONS

This application is a continuation-in-part of International Patent Application No. PCT/AU95/00335, dated Jun. 8, 1995, and designating the United States of America, the disclosure of which is incorporated herein by reference.

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
AU	PM 6124	June 8, 1994

US-CL-CURRENT: 536/23.5, 435/7.32

ABSTRACT:

An antigenic preparation for use in the treatment or prevention of Helicobacter infection in a mammalian host, comprises the catalase enzyme of Helicobacter bacteria, particularly the catalase enzyme of H. pylori or H. felis, or an immunogenic fragment thereof.

13 Claims, 0 Drawing figures

Exemplary Claim Number: 1

---------- KWIC ---------

Detailed Description Text - DETX (81):

6. Westblom, T. U., Phadnis, S., Langenberg, W., Yoneda, K., Madan, E. and Midkiff, B. R. (1992). **Catalase negative mutants** of Helicobacter pylori. European Journal of Clinical Microbiology and Infectious Diseases, 11:522-526.

US-PAT-NO: 5989846

DOCUMENT-IDENTIFIER: US 5989846 A

TITLE: Assays to identify inducers of plant defense resistance

DATE-ISSUED: November 23, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Klessig; Daniel Frederick	Bridgewater	NJ	N/A	N/A
Chen; Zhixiang	Highland Park	NJ	N/A	N/A

APPL-NO: 08/ 470769

DATE FILED: June 6, 1995

PARENT-CASE:

This is a division, of U.S. Ser. No. 08/418,554, filed on Apr. 7, 1995, which is a Continuation-in-Part application of U.S. Ser. No. 08,259,535, filed on Jun. 14, 1994, which is a Continuation-in-Part application of U.S. Ser. No. 08/146,317, filed on Nov. 2, 1993, which in turn is a Continuation-in-Part application of U.S. Ser. No. 08/038,132, filed on Mar. 26, 1993 which is a Continuation-in-Part application Ser. No 07/923,229, filed on Jul. 31, 1992 all abandoned.

US-CL-CURRENT: 435/27, 435/184 , 435/28

ABSTRACT:

The present invention relates to assays which can be used to identify inducers of plant resistance to pathogens. The assays use catalase and/or ascorbate peroxidase.

4 Claims, 26 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 15

---------- KWIC ---------

Brief Summary Text - BSTX (34):

Table 1 shows that salicylic acid causes a variety of plant responses. In some cases (such as disease resistance) salicylic acid induces the response, whereas in other cases it inhibits the response. The cloning of the SABP gene

means that it is now possible to enhance and alter these responses by modifying the salicylic acid induced pathway. Using techniques which reduce the abundance of SABP (e.g. antisense), techniques which modify the binding of salicylic acid to SABP (using dominant negative **mutations or salicylic acid insensitive forms of catalase**), and techniques which increase the abundance of SABP, it will be possible to modify these responses both positively and negatively. In one embodiment, a modified SABP could be expressed in a plant. Such modified SABPs are capable of assembling with endogenous SABPs to form inactive enzymes.

US-PAT-NO: 5977162

DOCUMENT-IDENTIFIER: US 5977162 A

TITLE: Therapeutic treatment for auditory function

DATE-ISSUED: November 2, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Seidman; Michael D.	West Bloomfield	MI	48323	N/A

APPL-NO: 08/ 931134

DATE FILED: September 16, 1997

PARENT-CASE:

This application claims the benefits of U.S. Provisional application Ser. No. 60/026,162 filed Sep. 16, 1996.

US-CL-CURRENT: 514/440, 514/556

ABSTRACT:

A nutritional supplement for enhancing mitochondrial function in cells includes 10-1000 mg of alpha-lipoic acid, 10-1000 mg acetyl-L-carnitine, 15-360 mg coenzyme Q-10, and 15-360 mg glutathione. The composition may further comprise a carrier for these components such as a liquid or tablet for oral ingestion on a daily basis.

14 Claims, 0 Drawing figures

Exemplary Claim Number: 1

---------- KWIC ---------

Brief Summary Text - BSTX (5):

Reactive oxygen metabolites, also known as free oxygen radicals (FOR) are the putative initiators in the membrane hypothesis of aging. ROMs are a normal by-product of oxidative phosphorylation, and are also formed under conditions of ischemia, hypoperfusion and because of environmental contaminants. Among the many detrimental activities of ROM, or free oxygen radicals, is direct damage to mitochondrial DNA (mtDNA). Progressive accumulation of mtDNA damage renders cells unable to conduct oxidative phosphorylation reactions effectively, thereby leading to a bioenergetically deficient cell. Over time, mitochondrial DNA damage accumulates and leads to cellular dysfunction with

subsequent organ failure, aging and ultimately death. This sequence forms the basis of the MHA. Additionally, there is evidence of a reduction in the oxidant-protective enzymes superoxide dis-**mutase and catalase** associated with aging. Thus not only are there increases in the deleterious effects of ROMs, but there is a reduction in the enzymes and mitochondrial metabolites necessary for protection from ROM and for effective mitochondrial function.

US-PAT-NO: 5922575

DOCUMENT-IDENTIFIER: US 5922575 A

TITLE: Mutations in the katG gene useful for detection of M. tuberculosis

DATE-ISSUED: July 13, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Cockerill, III; Franklin R.	Rochester	MN	N/A	N/A
Kline; Bruce C.	Rochester	MN	N/A	N/A
Uhl; James R.	Rochester	MN	N/A	N/A

APPL-NO: 08/ 852219

DATE FILED: May 7, 1997

PARENT-CASE:

This is a continuation-in-part application U.S. patent application Ser. No. 08/418,782, filed Apr. 7, 1995, now U.S. Pat. No. 5,658,733, issued Aug. 19, 1997 which is a continuation-in-part of U.S. patent application Ser. No. 08/228,662, filed Apr. 18, 1994, now U.S. Pat. No. 5,688,639, issued Nov. 18, 1997 both of which are incorporated herein by reference.

US-CL-CURRENT: 435/91.2, 435/6 , 435/863 , 435/91.1 , 536/23.1 , 536/24.3 , 536/24.33

ABSTRACT:

A method for selectively detecting M. tuberculosis is provided employing restriction fragment length polymorphism analysis of an enzymatic digest of the M. tuberculosis katG gene.

22 Claims, 15 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 15

---------- KWIC ---------

Detailed Description Text - DETX (27):

In the group of INH resistant strains, the most frequent change observed was the conversion of arginine at codon 463 to leucine. This was detected in five

of nine isolates examined. There was not a consistent correlation between the loss of catalase activity and INH resistance since strains L11150 and L24204 had high levels of enzymatic activity, yet were INH resistant. Moreover, several other INH resistant strains showed catalase activity near the mean activity (16.5 mm) of the sensitive strains. Two other isolates had lost the ability to make normal katG gene product due either to an eight bp deletion (L10373, semiquantitative **catalase, 3mm) or a nonsense mutation (TMC 306, semiquantitative catalase** 5 mm). It was not possible to determine if, or how, any of the deviations from the consensus reported in Table 3 affect catalase activity or cause INH resistance. However, the change at codon 463 is frequent enough that is indicative of resistance.

Other Reference Publication - OREF (2):

Temesgen et al., "Use of polymerase chain reaction single-strand conformation polymorphism (PCR-SSCP) analysis to detect a point **mutation in the catalase**-peroxidase gene (katG) of Mycobacterium tuberculosis," Molecular and Cellular Probes, 11, 59-63 (1997).

Other Reference Publication - OREF (7):

Cockerill, III, F.R., et al., "Rapid Identification of a Point **Mutation of the Myobacterium tuberculosis Catalase**-Peroxidase (katG) Gene Associated with Isoniazid Resistance", J. of Infectious Diseases, 171, 240-245 (Jan. 1995).

Other Reference Publication - OREF (12):

Heym, B., et al., "Missense **Mutations in the Catalase**-Peroxidase Gene, katG, are associated with isoniazid resistance in Mycobacterium tuberculosis", Molecular Biology, 15, 235-245 (1995).

US-PAT-NO: 5897995

DOCUMENT-IDENTIFIER: US 5897995 A

TITLE: Enzymatic production of gluconic acid or its salts

DATE-ISSUED: April 27, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Vroemen; Albert J.	Marq En Baroel	N/A	N/A	FR
Beverini; Marc	Lille	N/A	N/A	FR

APPL-NO: 08/ 765663

DATE FILED: April 16, 1997

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
EP	95201247	May 12, 1995

PCT-DATA:
APPL-NO: PCT/EP96/02128
DATE-FILED: May 13, 1996
PUB-NO: WO95/33631
PUB-DATE: Dec 14, 1995
371-DATE: Apr 16, 1997
102(E)-DATE:Apr 16, 1997

US-CL-CURRENT: 435/137, 435/134 , 435/14 , 435/190 , 435/27

ABSTRACT:

An enzymatic process for the conversion of glucose into gluconic acid, uses concentrated glucose solutions. The process employs a combination of glucose oxidase and catalase enzymes which may be obtained from an Aspergilltus niger strain and has a high ratio of catalase;glucose oxidase activity. The enzymatic process requires less time than conventional fermentation processes, the yield of the conversion is close to 100% and the obtained gluconic acid/gluconate solutions do not contain impurities.

16 Claims, 0 Drawing figures

Exemplary Claim Number: 1

---------- KWIC ---------

Brief Summary Text - BSTX (17):

Rosenberg et al. (1992, Bioprocess Eng. 7: 309-313) describe a fermentation process for gluconic acid production in which an a high **catalase containing A.niger mutant** is used and wherein hydrogen peroxide is applied as oxygen donor. However, as already mentioned, hydrogen peroxide inactivates glucose oxidase and cataiase in isolated form.

US-PAT-NO: 5871912

DOCUMENT-IDENTIFIER: US 5871912 A

TITLE: Nucleic acid probes, sequences and methods for detecting mycobacterium tuberculosis resistant to isoniazid

DATE-ISSUED: February 16, 1999

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Heym; Beate	Ville d'Avray	N/A	N/A	FR
Cole; Stewart T.	Clamart	N/A	N/A	FR
Young; Douglas B.	Middlesex	N/A	N/A	GB
Zhang; Ying	Baltimore	MD	N/A	N/A

APPL-NO: 08/ 459499

DATE FILED: June 2, 1995

PARENT-CASE:

CROSS-REFERENCE TO RELATED APPLICATIONS

This application is a continuation-in-part of application Ser. No. 07/929,206, filed Aug. 14, 1992 (Atty. Docket No. 03495-0110-01) now U.S. Pat. No. 5,633,131, which is a continuation-in-part of application Ser. No. 07/875,940, filed Apr. 30, 1992 (now abandoned), and application Ser. No. 08/029,655, filed Mar. 11, 1993 (Atty. Docket No. 03495-0110-02000), abandoned, which is a continuation-in-part of application Ser. No. 07/875,940, filed Apr. 30, 1992 (now abandoned) and Ser. No. 07/929,206, filed Aug. 14, 1992. The entire disclosure of each of these applications is relied upon and incorporated by reference herein.

US-CL-CURRENT: 435/6, 436/501 , 536/22.1 , 536/24.1 , 536/24.3 , 536/24.31 , 536/24.32 , 536/24.33

ABSTRACT:

Multi-drug resistant strains of Mycobacterium tuberculosis represent a considerable threat to public health worldwide. Resistance to isoniazid (INH), a key component of anti-tuberculosis regimens, is often associated with loss of catalase activity and virulence. The katG gene, encoding HPI catalase-peroxidase, mediates INH-sensitivity and that the high level resistance encountered clinically may be due to deletions, insertions or point **mutations which reduce or eliminate the expression of the catalase** gene in the chromosomal region encompassing katG. INH-resistant strains of Mycobacterium tuberculosis are detected by nucleic acid hybridization with a unique nucleic acid sequence or by amplification techniques.

14 Claims, 27 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 20

---------- KWIC ---------

Abstract Text - ABTX (1):

Multi-drug resistant strains of Mycobacterium tuberculosis represent a considerable threat to public health worldwide. Resistance to isoniazid (INH), a key component of anti-tuberculosis regimens, is often associated with loss of catalase activity and virulence. The katG gene, encoding HPI catalase-peroxidase, mediates INH-sensitivity and that the high level resistance encountered clinically may be due to deletions, insertions or point **mutations which reduce or eliminate the expression of the catalase** gene in the chromosomal region encompassing katG. INH-resistant strains of Mycobacterium tuberculosis are detected by nucleic acid hybridization with a unique nucleic acid sequence or by amplification techniques.

Detailed Description Text - DETX (6):

This invention demonstrates that it is the catalase-peroxidase enzyme, HPI, which is the INH target, and it is suggested that this enzyme alone mediates toxicity. Compelling evidence of this conclusion was obtained by expression of the M. tuberculosis katG gene in a **catalase-negative mutant** of E. coli as this resulted in this bacterium becoming sensitive to INH. Moreover, the isolation of the M. tuberculosis INH-sensitivity gene, katG, is important as it will facilitate the rapid detection of INH-resistant strains by means of hybridization and PCR-based approaches. The high frequency of katG deletions in clinical strains, as shown here, should simplify this procedure.

Detailed Description Text - DETX (26):

To determine whether the HPI enzyme of M. tuberculosis could confer INH sensitivity on E. coli, a series of **catalase mutants** was transformed with pYZ56 and the MICs determined. Wild type strains were not susceptible to INH, but **mutants lacking both endogenous catalase** activities, but harboring PYZ56, showed growth inhibition when high levels of INH (500 .mu.g/ml) were present, whereas untransformed strains were insensitive.

US-PAT-NO: 5851763

DOCUMENT-IDENTIFIER: US 5851763 A

TITLE: Rapid detection of antibiotic resistance in mycobacterium tuberculosis

DATE-ISSUED: December 22, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Heym; Beate	Ville d'Avray	N/A	N/A	FR
Cole; Stewart	Clamart	N/A	N/A	FR
Young; Douglas	Ruislip	N/A	N/A	GB
Zhang; Ying	London	N/A	N/A	GB
Honore; Nadine	Colombes	N/A	N/A	FR
Telenti; Amalio	Gerzensee	N/A	N/A	CH
Bodmer; Thomas	Ersigen	N/A	N/A	CH

APPL-NO: 08/ 313185

DATE FILED: October 12, 1994

PARENT-CASE:

This application is a National stage application filed under 35 U.S.C. .sctn. 371 based on International Application PCT/EP/01063, filed Apr. 30, 1993, which is based upon U.S. application Ser. No. 07/929,206, filed Aug. 14, 1992, now U.S. Pat. No. 5,633,131, issued May 27, 1997, which is a continuation-in-part application of U.S. application Ser. No. 07/875,940, filed Apr. 30, 1992, now abandoned and French applications No. FR 93 04545, filed Apr. 16, 1993, and No. FR 92 11098, filed Sep. 17, 1992.

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
FR	92 11098	September 17, 1992
FR	93 04545	April 16, 1993

PCT-DATA:
APPL-NO: PCT/EP93/01063
DATE-FILED: April 30, 1993
PUB-NO: WO93/22454
PUB-DATE: Nov 11, 1993
371-DATE: May 9, 1995
102(E)-DATE:May 9, 1995

US-CL-CURRENT: 435/6, 435/91.1 , 435/91.2 , 536/24.3 , 536/24.32 , 536/25.3 , 536/26.6

ABSTRACT:

A process for the detection of resistance to an antibiotic in a mycobacterium comprises detecting a mutation in a gene selected from the group consisting of the katG gene or fragment thereof, the rpoB gene or fragment thereof, and the rpsl gene or fragment thereof. The process is useful for detecting in vitro the presence of nucleic acids of a Mycobacterium tuberculosis resistant to isoniazid.

21 Claims, 30 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 26

---------- KWIC ---------

Detailed Description Text - DETX (6):

This invention demonstrates that it is the catalase-peroxidase enzyme, HPI, which is the INH target, and it is suggested that this enzyme alone mediates toxicity. Compelling evidence of this conclusion was obtained by expression of the M. tuberculosis katG gene (SEQ ID NO:45) in a **catalase-negative mutant** of E. coli as this resulted in this bacterium becoming sensitive to INH. Moreover, the isolation of the M. tuberculosis INH-sensitivity gene, katG (SEQ ID NO:45), is important as it will facilitate the rapid detection of INH-resistant strains by means of hybridization and PCR-based approaches. The high frequency of deletions in clinical strains, as shown here, should simplify this procedure.

Detailed Description Text - DETX (26):

To determine whether the HPI enzyme of M. tuberculosis could confer INH sensitivity on E. coli, a series of **catalase mutants** was transformed with pYZ56 and the MICs determined. Wild type strains were not susceptible to INH, but **mutants lacking both endogenous catalase** activities, but harboring pYZ56, showed growth inhibition when high levels of INH (500 .mu.g/ml) were present, whereas untransformed strains were insensitive.

Detailed Description Text - DETX (68):

On examination of a 200 bp segment of the katG gene from five independent strains (9188, 9106, 9441, 9444, 9363), a single base difference was found. This was the same in all cases, a G to T transversion at position 3360, resulting in the substitution of Arg-461 by Leu. Thus, in addition to inactivation of katG, INH-resistance can stem from mis-sense **mutations that result in an altered catalase** peroxidase. This mutation may define a site of interaction between the drug and the enzyme. The results of DNA sequence studies with the remaining mutants are eagerly awaited.

US-PAT-NO: 5770373

DOCUMENT-IDENTIFIER: US 5770373 A

TITLE: Rapid and sensitive detection of antibiotic-resistant mycobacteria using oligonucleotide probe specific for ribosomal RNA precursors

DATE-ISSUED: June 23, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Britschgi; Theresa B.	Seattle	WA	N/A	N/A
Cangelosi; Gerard A.	Seattle	WA	N/A	N/A

APPL-NO: 08/ 745638

DATE FILED: November 8, 1996

PARENT-CASE:

This is a division of application Ser. No. 08/485,602, filed Jun. 7, 1995 which is a continuation-in-part of application Ser. No. 08/261,068, filed Jun. 16, 1994, abandoned.

US-CL-CURRENT: 435/6, 435/29 , 435/32

ABSTRACT:

The invention relates to methods and oligonucleotide probe compositions useful for determining antibiotic resistance in Mycobacteria. Included are methods for freeing intact precursor ribosomal RNA from mycobacterial cells and for assaying the levels of pre-rRNA in the cells. Also claimed are methods useful in discovering new anti-mycobacterial therapeutic agents.

6 Claims, 7 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 6

---------- KWIC ---------

Brief Summary Text - BSTX (9):

Theoretically, one could simultaneously identify a mycobacterial species and determine whether it is sensitive to common antibiotics through use of more than one probe. One oligonucleotide probe would detect species-specific DNA or

RNA sequences, while another probe detects common antibiotic resistance genes. However, this method is useful only for known antibiotic resistance genes. Many different mechanisms can result in antibiotic resistance; many of these are not well understood. For example, resistance of M. tuberculosis to isoniazid can arise through **mutations that reduce the expression of the catalase**-peroxidase (katG) gene, or through separate mutations that enhance the expression of the inhA gene [Zhang et al. (1992) Nature 358: 591-593]. Similarly, resistance to rifampin can arise through any of a large number of missense mutations scattered over 1000 bases of the rpoB gene [Telenti et al. (1993) The Lancet 341: 647-650]. Because of such diversity, genetic probing techniques are frequently less useful than phenotypic tests for antibiotic effectiveness, such as the culture or BACTEC methods, which can detect resistance regardless of its genetic basis.

US-PAT-NO: 5741487

DOCUMENT-IDENTIFIER: US 5741487 A

TITLE: Mutanase-containing oral compositions

DATE-ISSUED: April 21, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Asai; Yoshio	Tokyo	N/A	N/A	JP
Ohdera; Motoyasu	Tokyo	N/A	N/A	JP
Kigawa; Hiromitsu	Tokyo	N/A	N/A	JP
Shimotsuura; Isao	Tokyo	N/A	N/A	JP
Yokobori; Yoshiko	Tokyo	N/A	N/A	JP
Hirano; Masanori	Tokyo	N/A	N/A	JP
Shibuya; Koji	Tokyo	N/A	N/A	JP

APPL-NO: 08/ 806626

DATE FILED: February 26, 1997

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
JP	8-146613	May 16, 1996

US-CL-CURRENT: 424/94.61

ABSTRACT:

An oral composition contains mutanase prepared from a culture which is obtained by cultivating a mutanase-producing microorganism belonging to the genus Bacillus having negative protease producibility. The oral composition is effective for suppressing dental plaque formation while the mutanase possesses commercially acceptable stability in the oral composition.

9 Claims, 12 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 6

---------- KWIC ---------

Detailed Description Text - DETX (105):

The third mutanase-producing microorganism is weakly positive and readily decolored in gram-staining whereas BC-8 strain is positive. The third

mutanase-producing microorganism is motile and forms spores at central to terminal positions whereas BC-8 strain is not motile and forms spores at a terminal position. The third **mutanase-producing microorganism is negative for catalase** activity and positive in nitrate reduction whereas BC-8 strain is positive for catalase activity and negative in nitrate reduction. The third mutanase-producing microorganism shows negative growth in 5% NaCl whereas BC-8 strain is positive. The third mutanase-producing microorganisms is weakly positive in acid production from D-xylose whereas BC-8 strain is negative. The third mutanase-producing microorganism has a GC content of 56% whereas BC-8 strain has a GC content of 49.5%.

US-PAT-NO: 5726021

DOCUMENT-IDENTIFIER: US 5726021 A

TITLE: Rapid and sensitive detection of antibiotic-resistant mycobacteria using oligonucleotide probes specific for ribosomal RNA precursors

DATE-ISSUED: March 10, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Britschgi; Theresa B.	Seattle	WA	N/A	N/A
Cangelosi; Gerard A.	Seattle	WA	N/A	N/A

APPL-NO: 08/ 757180

DATE FILED: November 27, 1996

PARENT-CASE:

This application is a continuation of application Ser. No. 08/261,068, filed Jun. 16, 1994, now abandoned.

US-CL-CURRENT: 435/6, 435/259 , 435/4

ABSTRACT:

The invention relates to methods and compositions useful for rapidly freeing precursor ribosomal RNA from mycobacterial cells. The methods and compositions further result in detectable levels of ribosomal RNA precursors that are not degraded.

6 Claims, 4 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 4

---------- KWIC ---------

Brief Summary Text - BSTX (9):

Theoretically, one could simultaneously identify a mycobacterial species and determine whether it is sensitive to common antibiotics through use of more than one probe. One oligonucleotide probe would detect species-specific DNA or RNA sequences, while another probe detects common antibiotic resistance genes. However, this method is useful only for known antibiotic resistance genes.

Many different mechanisms can result in antibiotic resistance; many of these are not well understood. For example, resistance of M. tuberculosis to isoniazid can arise through **mutations that reduce the expression of the catalase**-peroxidase (katG) gene, or through separate mutations that enhance the expression of the inhA gene [Zhang et al. (1992) Nature 358: 591-593]. Similarly, resistance to rifampin can arise through any of a large number of missense mutations scattered over 1000 bases of the rpoB gene [Telenti et al. (1993) The Lancet 341: 647-650]. Because of such diversity, genetic probing techniques are frequently less useful than phenotypic tests for antibiotic effectiveness, such as the culture or BACTEC methods, which can detect resistance regardless of its genetic basis.

US-PAT-NO: 5712095

DOCUMENT-IDENTIFIER: US 5712095 A

TITLE: Rapid and sensitive detection of antibiotic-resistant mycobacteria using oligonucleotide probes specific for ribosomal RNA precursors

DATE-ISSUED: January 27, 1998

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Britschgi; Theresa B.	Seattle	WA	N/A	N/A
Cangelosi; Gerard A.	Seattle	WA	N/A	N/A

APPL-NO: 08/ 485602

DATE FILED: June 7, 1995

PARENT-CASE:

This application is a continuation-in-part of application Ser. No. 08/261,068, filed Jun. 16, 1994, now abandoned.

US-CL-CURRENT: 435/6, 536/24.32 , 536/24.33

ABSTRACT:

The invention relates to methods and oligonucleotide probe compositions useful for determining antibiotic resistance in Mycobacteria. Included are methods for freeing intact precursor ribosomal RNA from mycobacterial cells and for assaying the levels of pre-rRNA in the cells. Also claimed are methods useful in discovering new anti-mycobacterial therapeutic agents.

18 Claims, 7 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 6

---------- KWIC ---------

Brief Summary Text - BSTX (9):

Theoretically, one could simultaneously identify a mycobacterial species and determine whether it is sensitive to common antibiotics through use of more than one probe. One oligonucleotide probe would detect species-specific DNA or RNA sequences, while another probe detects common antibiotic resistance genes.

However, this method is useful only for known antibiotic resistance genes. Many different mechanisms can result in antibiotic resistance; many of these are not well understood. For example, resistance of M. tuberculosis to isoniazid can arise through **mutations that reduce the expression of the catalase**-peroxidase (katG) gene, or through separate mutations that enhance the expression of the inhA gene [Zhang et al. (1992) Nature 358: 591-593]. Similarly, resistance to rifampin can arise through any of a large number of missense mutations scattered over 1000 bases of the rpoB gene [Telenti et al. (1993) The Lancet 341: 647-650]. Because of such diversity, genetic probing techniques are frequently less useful than phenotypic tests for antibiotic effectiveness, such as the culture or BACTEC methods, which can detect resistance regardless of its genetic basis.

US-PAT-NO: 5688639

DOCUMENT-IDENTIFIER: US 5688639 A

TITLE: Detection of isoniazid resistent strains of M. tuberculosis

DATE-ISSUED: November 18, 1997

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Cockerill; Franklin R.	Rochester	MN	N/A	N/A
Kline; Bruce C.	Rochester	MN	N/A	N/A
Uhl; James R.	Rochester	MN	N/A	N/A

APPL-NO: 08/ 228662

DATE FILED: April 18, 1994

US-CL-CURRENT: 435/6, 435/863 , 435/91.1 , 435/91.2 , 536/24.3 , 536/24.33 , 536/25.3

ABSTRACT:

A method for determining the susceptibility of a strain of M. tuberculosis to isoniazid is provided comprising employing the techniques of restriction length polymorphism analysis to determine whether or not the DNA of said strain has an NciI-MspI restriction site at the codon corresponding to codon 463 of an M. tuberculosis katG gene consensus sequence.

7 Claims, 7 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 7

---------- KWIC ---------

Detailed Description Text - DETX (20):

In the group of INH resistant strains, the most frequent change observed was the conversion of arginine at codon 463 to leucine. This was detected in five of nine isolates examined. There was not a consistent correlation between the loss of catalase activity and INH resistance since strains L11150 and L24204 had high levels of enzymatic activity, yet were INH resistant. Moreover, several other INH resistant strains showed catalase activity near the mean activity (16.5 mm) of the sensitive strains. Two other isolates had lost the ability to make normal katG gene product due either to an eight bp deletion

(L10373, semiquantitative **catalase, 3 mm) or a nonsense mutation (TMC 306, semiquantitative catalase** 5 mm). It was not possible to determine if, or how, any of the deviations from the consensus reported in Table 2 affect catalase activity or cause INH resistance. However, the change at codon 463 is frequent enough that is indicative of resistance.

US-PAT-NO: 5674721

DOCUMENT-IDENTIFIER: US 5674721 A

TITLE: Process for making yeast cells resistant to extreme high pressure

DATE-ISSUED: October 7, 1997

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Bissinger; Peter H.	Sherrybrook, New South Wales 2113	N/A	N/A	AU
Schiestl; Robert H.	Boston	MA	02130	N/A
Davidson; John F.	Jamaica Plain	MA	02130	N/A

APPL-NO: 08/ 235569

DATE FILED: April 29, 1994

PARENT-CASE:

CROSS REFERENCE TO RELATED APPLICATIONS

This is a continuation-in-part of patent application Ser. No. 07/926,949, filed Aug. 10, 1992, now abandoned.

US-CL-CURRENT: 435/483, 435/254.11 , 435/254.21

ABSTRACT:

Novel dividing cells of the yeast Saccharomyces. A first portion of dividing yeast cells is transformed with DNA encoding superoxide dismutase protein and DNA encoding catalase protein, and a second portion of yeast cells is not transformed with DNA grown at the same cell density as the first portion. When both portions of cells are heated in the presence of oxygen containing gas to a temperature of 50 degrees Celsius and are maintained at such temperature for 20 minutes, at least twice as many cells of the first portion of cells survive.

7 Claims, 4 Drawing figures

Exemplary Claim Number: 1,4

Number of Drawing Sheets: 4

---------- KWIC ---------

Brief Summary Text - BSTX (11):

In the first step of this process, two genes, coding for superoxide dismutase and **catalase, are introduced into the fungal organism, or the selection of mutants** that increase the activity of one or both enzymes.

Detailed Description Text - DETX (92):

The plasmid Yep13-7308 has been isolated from a yeast genomic library constructed by Nasmyth K A and S I Reed (1980, Proc. Natl. Acad. Sci.77: 2119-2123) in the process of cloning the CTT1 gene (Spevak W. et al., 1983, Molecular and Cellular Biology, 3 (9), p1545-1551). The catalase T structural gene of Saccharomyces cerevisiae was cloned by functional complementation of a mutation causing specific lack of the enzyme (ctt1). **Catalase T-deficient mutants** were obtained by UV mutagenesis of an S. cerevisiae strain bearing the cas1 **mutation, which causes insensitivity of catalase** T to glucose repression. Since the second catalase protein of S. cerevisiae, catalase A, is completely repressed on 10% glucose, **catalase T deficient mutant** colonies could be detected under such conditions.

US-PAT-NO: 5658733

DOCUMENT-IDENTIFIER: US 5658733 A

TITLE: Detection of isoniazid resistant strains of M. tuberculosis

DATE-ISSUED: August 19, 1997

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Cockerill, III; Franklin R.	Rochester	MN	N/A	N/A
Kline; Bruce C.	Rochester	MN	N/A	N/A
Uhl; James R.	Rochester	MN	N/A	N/A

DISCLAIMER DATE: 20140418

APPL-NO: 08/ 418782

DATE FILED: April 7, 1995

PARENT-CASE:

This is a continuation-in-part application of U.S. patent application Ser. No. 08/228,662 filed Apr. 18, 1994, which is incorporated herein by reference.

US-CL-CURRENT: 435/6, 435/863 , 435/91.1 , 435/91.2 , 536/23.7 , 536/24.32 , 536/24.33

ABSTRACT:

A method for determining the susceptibility of a strain of M. tuberculosis to isoniazid is provided comprising employing the techniques of restriction fragment length polymorphism analysis to determine whether or not the DNA of said strain has an MspI restriction site at the codon corresponding to codons 315 or 463 of an M. tuberculosis katG gene consensus sequence.

20 Claims, 15 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 15

---------- KWIC ---------

Detailed Description Text - DETX (25):

In the group of INH resistant strains, the most frequent change observed was

the conversion of arginine at codon 463 to leucine. This was detected in five of nine isolates examined. There was not a consistent correlation between the loss of catalase activity and INH resistance since strains L11150 and L24204 had high levels of enzymatic activity, yet were INH resistant. Moreover, several other INH resistant strains showed catalase activity near the mean activity (16.5 mm) of the sensitive strains. Two other isolates had lost the ability to make normal katG gene product due either to an eight bp deletion (L10373, semiquantitative **catalase, 3mm) or a nonsense mutation (TMC 306, semiquantitative catalase** 5 mm). It was not possible to determine if, or how, any of the deviations from the consensus reported in Table 3 affect catalase activity or cause INH resistance. However, the change at codon 463 is frequent enough that is indicative of resistance.

Other Reference Publication - OREF (4):

F.R. Cockerill, III, et al., "Rapid Identification of a Point **Mutation of the Myobacterium tuberculosis Catalase**-Peroxidase (katG) Gene Associated with Isoniazid Resistance", Journal of Infectious Diseases, 171, 240-245 (Jan. 1995).

Other Reference Publication - OREF (8):

B. Heym et al., "Missense **mutations in the catalase**-peroxidase gene, katG, are associated with isoniazid resistance in Mycobacterium tuberculosis", Molecular Biology, 15, 235-245 (1995).

US-PAT-NO: 5633356

DOCUMENT-IDENTIFIER: US 5633356 A

TITLE: 3-deoxyglucosone derivatives

DATE-ISSUED: May 27, 1997

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Niwa; Toshimitsu	Kounan	N/A	N/A	JP
Niimura; Koichi	Warabi	N/A	N/A	JP
Ohara; Minoru	Tokyo	N/A	N/A	JP
Tomiyama; Sigemi	Matsudo	N/A	N/A	JP

APPL-NO: 08/ 314687

DATE FILED: September 29, 1994

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
JP	5-264092	September 29, 1993

US-CL-CURRENT: 536/1.11, 436/63

ABSTRACT:

For determining 3-deoxyglucosone derivatives which are intermediate metabolites of the Maillard reaction in body fluids such as blood, urine, serum, plasma and the like in gas chromatography/mass spectrometry, .sup.13 C-labelled compounds or .sup.14 C-labelled compounds are useful as an internal standard substance. More specifically, 3-deoxyglucosone derivatives having the formula (I): ##STR1## wherein *C is .sup.13 C or .sup.14 C, X is O or N--OR wherein R is Me, Et or H, and Y is SiMe.sub.3 or SiMe.sub.2 tBu, and their production are provided. The measurement of 3-deoxyglucosone derivatives is useful in diagnosing diseases such as diabetes and diseases complicated with diabetes, including diabetic nephrosis, various renal disorders, renal insufficiency, metabolic diseases of carbohydrate and the like.

6 Claims, 5 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 5

---------- KWIC ---------

Detailed Description Text - DETX (53):

Preparation of sample: 200 ng of the .sup.13 C-3-deoxy-D-erythro-hexose-2-urose which is a .sup.13 C.sub.6 -3-deoxyglucosone derivative prepared according to the present invention as an internal standard substance is added to 1 ml of serum from a normal healthy person (or serum from a patient suffering from diabetes or serum from a patient suffering from stomach disease). The sample is then sufficiently mixed with a 0.05M phosphoric acid buffer solution (pH 7.0) containing glucose oxidase (100 .mu./ml), **catalase (1100 .mu./ml) and mutarotase** (4 .mu./ml), and is incubated at 37.degree. C. for one hour. After addition of 2 ml of ethyl alcohol to the solution, the mixture is subjected to centrifuge at 3000 rpm for 10 minutes to remove denatured proteins. The supernatant liquid is added to Bond Elut SCX cartridge (cation exchange resin 100 mg/ml, Analytichem International Inc., Harbor City, Calif., USA) and is eluted with 3 ml of distilled water. The collected eluate is added to Bond Elut SAX cartridge (anion exchange resin 100 mg/ml, Analytichem International) and is eluted with 3 ml of distilled water. The eluate is collected and is freeze-dried. The eluate is dissolved in methyl alcohol, transferred into a vial with a screw cap, and the solvent is removed under nitrogen stream. Then, to 200 .mu.l of pyridine is added a solution containing 5 mg of methoxylamine hydrochloride to carry out the reaction at 70.degree. C. for 30 minutes to form a methoxyoxime derivative. After the solvent is removed under nitrogen stream, 20 .mu.l of N,O-bis(trimethylsilyl) trifluoroacetamide containing 1% of triethylamine is added thereto to carry out the reaction at 60.degree. C. for 20 minutes to convert the hydroxyl group into a trimethylsilyl derivative. After left to cool, 5 .mu.l of the sample is analyzed through gas chromatography/mass spectrometry (GC/MS). When serum from a normal person is used, the deviation coefficients among the samples and in the samples are as small as 7% (n=5) and 6.3% (n=5) up to the concentration of 800 ng/ml. The recovery rate of the 3-deoxyglucosone derivative that is added is nearly 100.0% wherein its standard deviation is 4.6% (average value.+-.standard deviation n=5).

US-PAT-NO: 5633131

DOCUMENT-IDENTIFIER: US 5633131 A

TITLE: Rapid detection of isoniazid resistance in mycobacterium tuberculosis probes for selecting nucleic acid encoding isoniazid resistance, and methods and kits

DATE-ISSUED: May 27, 1997

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Heym; Beate	Paris	N/A	N/A	FR
Cole; Stewart T.	Clamart	N/A	N/A	FR
Young; Douglas B.	Middlesex	N/A	N/A	GB
Zhang; Ying	London	N/A	N/A	GB2

APPL-NO: 07/ 929206

DATE FILED: August 14, 1992

PARENT-CASE:

This application is a continuation-in-part of application Ser. No. 875,940 filed on Apr. 30, 1992, now abandoned. This invention relates to the rapid detection of strains of Mycobacterium tuberculosis that are resistant to the antibiotic isoniazid. More particularly, this invention relates to a method of detecting isoniazid resistance in Mycobacterium tuberculosis by nucleic acid hybridization. This invention also relates to a nucleic acid probe and a kit for carrying out the nucleic acid hybridization.

US-CL-CURRENT: 435/6, 435/810 , 436/501 , 436/63 , 536/22.1 , 536/23.1 , 536/24.31 , 536/24.32 , 536/24.33

ABSTRACT:

Multi-drug resistant strains of Mycobacterium tuberculosis represent a considerable threat to public health worldwide. Resistance to isoniazid (INH), a key component of anti-tuberculosis regimens, is often associated with loss of catalase activity and virulence. The katG gene, encoding HPI catalase-peroxidase, mediates INH-sensitivity and that the high level resistance encountered clinically may be due to deletions, insertions or point **mutations which reduce or eliminate the expression of the catalase** gene in the chromosomal region encompassing katG. INH-resistant strains of Mycobacterium tuberculosis are detected by nucleic acid hybridization with a unique nucleic acid sequence or by amplification techniques.

22 Claims, 12 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 7

--------- KWIC ---------

Abstract Text - ABTX (1):

Multi-drug resistant strains of Mycobacterium tuberculosis represent a considerable threat to public health worldwide. Resistance to isoniazid (INH), a key component of anti-tuberculosis regimens, is often associated with loss of catalase activity and virulence. The katG gene, encoding HPI catalase-peroxidase, mediates INH-sensitivity and that the high level resistance encountered clinically may be due to deletions, insertions or point **mutations which reduce or eliminate the expression of the catalase** gene in the chromosomal region encompassing katG. INH-resistant strains of Mycobacterium tuberculosis are detected by nucleic acid hybridization with a unique nucleic acid sequence or by amplification techniques.

Detailed Description Text - DETX (6):

This invention demonstrates that it is the catalase-peroxidase enzyme, HPI, which is the INH target, and it is suggested that this enzyme alone mediates toxicity. Compelling evidence of this conclusion was obtained by expression of the M. tuberculosis katG gene in a **catalase-negative mutant** of E. coli as this resulted in this bacterium becoming sensitive to INH. Moreover, the isolation of the M. tuberculosis INH-sensitivity gene, katG, is important as it will facilitate the rapid detection of INH-resistant strains by means of hybridization and PCR-based approaches. The high frequency of katG deletions in clinical strains, as shown here, should simplify this procedure.

Detailed Description Text - DETX (27):

To determine whether the HPI enzyme of M. tuberculosis could confer INH sensitivity on E. coli , a series of **catalase mutants** was transformed with pBAK16 and the MICs determined. Wild type strains were not susceptible to INH, but **mutants lacking both endogenous catalase** activities, but harboring pBAK16, showed growth inhibition when high levels of INH (500 .mu.g/ml) were present, whereas untransformed strains were insensitive.

US-PAT-NO: 5623063

DOCUMENT-IDENTIFIER: US 5623063 A

TITLE: 3-Deoxyglucosone derivatives and method for determining the same

DATE-ISSUED: April 22, 1997

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Niwa; Toshimitsu	Kounan	N/A	N/A	JP
Niimura; Koichi	Warabi	N/A	N/A	JP
Ohara; Minoru	Tokyo	N/A	N/A	JP
Tomiyama; Sigemi	Matsudo	N/A	N/A	JP

APPL-NO: 08/ 471751

DATE FILED: June 6, 1995

PARENT-CASE:

This is a division of application Ser. No. 08/314,687 filed Sep. 29, 1994.

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
JP	5-264092	September 29, 1993

US-CL-CURRENT: 536/17.2, 536/17.7 , 536/18.5

ABSTRACT:

For determining 3-deoxyglucosone derivatives which are intermediate metabolites of the Maillard reaction in body fluids such as blood, urine, serum, plasma and the like in gas chromatography/mass spectrometry, .sup.13 C-labelled compounds or .sup.14 C-labelled compounds are useful as an internal standard substance. More specifically, 3-deoxyglucosone derivatives having the formula (I): ##STR1## wherein *C is .sup.13 C or .sup.14 C, X is O or N--OR wherein R is Me, Et or H, and Y is SiMe.sub.3 or SiMe.sub.2 tBu, and their production are provided. The measurement of 3-deoxyglucosone derivatives is useful in diagnosing diseases such as diabetes and diseases complicated with diabetes, including diabetic nephrosis, various renal disorders, renal insufficiency, metabolic diseases of carbohydrate and the like.

15 Claims, 5 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 5

---------- KWIC ---------

Detailed Description Text - DETX (51):

Preparation of sample: 200 ng of the .sup.13 C-3-deoxy-D-erythro-hexose-2-urose which is a .sup.13 C.sub.6 -3-deoxyglucosone derivative prepared according to the present invention as an internal standard substance is added to 1 ml of serum from a normal healthy person (or serum from a patient suffering from diabetes or serum from a patient suffering from stomach disease). The sample is then sufficiently mixed with a 0.05M phosphoric acid buffer solution (pH 7.0) containing glucose oxidase (100 .mu./ml), **catalase (1100 .mu./ml) and mutarotase** (4 .mu./ml), and is incubated at 37.degree. C. for one hour. After addition of 2 ml of ethyl alcohol to the solution, the mixture is subjected to centrifuge at 3000 rpm for 10 minutes to remove denatured proteins. The supernatant liquid is added to Bond Elut SCX cartridge (cation exchange resin 100 mg/ml, Analytichem International Inc., Harbor City, Calif., USA) and is eluted with 3 ml of distilled water. The collected eluate is added to Bond Elut SAX cartridge (anion exchange resin 100 mg/ml, Analytichem International) and is eluted with 3 ml of distilled water. The eluate is collected and is freeze-dried. The eluate is dissolved in methyl alcohol, transferred into a vial with a screw cap, and the solvent is removed under nitrogen stream. Then, to 200 .mu.l of pyridine is added a solution containing 5 mg of methoxylamine hydrochloride to carry out the reaction at 70.degree. C. for 30 minutes to form a methoxyoxime derivative. After the solvent is removed under nitrogen stream, 20 .mu.l of N,O-bis(trimethylsilyl) trifluoroacetamide containing 1% of triethylamine is added thereto to carry out the reaction at 60.degree. C. for 20 minutes to convert the hydroxyl group into a trimethylsilyl derivative. After left to cool, 5 .mu.l of the sample is analyzed through gas chromatography/mass spectrometry (GC/MS). When serum from a normal person is used, the deviation coefficients among the samples and in the samples are as small as 7% (n=5) and 6.3% (n=5) up to the concentration of 800 ng/ml. The recovery rate of the 3-deoxyglucosone derivative that is added is nearly 100.0% wherein its standard deviation is 4.6% (average value.+-.standard deviation n=5).

US-PAT-NO: 5622849

DOCUMENT-IDENTIFIER: US 5622849 A

TITLE: Catalase from bacillus and process for producing the same

DATE-ISSUED: April 22, 1997

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Fusho; Yuichi	Kanagawa	N/A	N/A	JP
Yajima; Yoshihiro	Chiba	N/A	N/A	JP

APPL-NO: 08/ 517545

DATE FILED: August 21, 1995

PARENT-CASE:

This is a Continuation of Parent application Ser. No. 08/354,721, filed Dec. 6, 1994, now U.S. Pat. No. 5,486,467.

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
JP	6-3698	January 18, 1994
JP	6-86745	April 25, 1994

US-CL-CURRENT: 435/192, 435/183 , 435/252.1

ABSTRACT:

A microbial catalase having a catalase activity at 0.degree. C. of 95% or more of its catalase activity at 30.degree. C., when measured at pH 7, and a process for producing the same. The microbial catalase preferably has (1) an operative temperature of 0.degree. to 60.degree. C. and an optimum temperature of 0.degree. to 30.degree. C., when measured within the range of from 0.degree. to 60.degree. C., (2) an optimum pH of 7 to 10, (3) a resistance to 10 mM potassium fluoride, (4) a molecular weight is 65,000.+-.3,000, when measured by SDS polyacrylamide gel electrophoresis, and (5) an isoelectric point is about 4.8, when measured by isoelectric focusing.

4 Claims, 5 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 3

---------- KWIC ---------

Detailed Description Text - DETX (29):

In addition to the above, **mutants capable of producing the same catalase** produced by the above described strain having the aforementioned properties can be obtained using the strain as a parent strain and subjecting it to spontaneous or induced **mutation, which can also be used as producer strains of the catalase** of the present invention. As an example of conventional means for the preparation of such mutant strains, mutants are derived from the parent strain with no artificial mutagenesis or by subjecting it to artificial mutagenic treatment with ultraviolet rays or a mutagenic drug such as N-methyl-N'-nitro-N-nitrosoguanidine (NTG) or the like, and then a mutant strain of interest is selected from the thus derived mutants making use of its changed property. For example, when a **mutant strain having increased catalase** productivity is desired, such a selection may be effected by selecting a colony well grown on a medium containing hydrogen peroxide.

US-PAT-NO: 5618734

DOCUMENT-IDENTIFIER: US 5618734 A

TITLE: Method for measuring 3-deoxyglucosone derivatives in a sample

DATE-ISSUED: April 8, 1997

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Niwa; Toshimitsu	Kounan	N/A	N/A	JP
Niimura; Koichi	Warabi	N/A	N/A	JP
Ohara; Minoru	Tokyo	N/A	N/A	JP
Tomiyama; Sigemi	Matsudo	N/A	N/A	JP

APPL-NO: 08/ 406704

DATE FILED: March 20, 1995

PARENT-CASE:

This is a division of application No. 08/314,687 filed Sep. 29, 1994.

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
JP	5-264092	September 29, 1993

US-CL-CURRENT: 436/173, 436/128 , 436/14 , 436/161 , 436/174 , 436/177 , 436/56 , 436/57 , 436/8 , 436/94 , 436/95

ABSTRACT:

For determining 3-deoxyglucosone derivatives which are intermediate metabolites of the Maillard reaction in body fluids such as blood, urine, serum, plasma and the like in gas chromatography/mass spectrometry, .sup.13 C-labelled compounds or .sup.14 C-labelled compounds are useful as an internal standard substance. More specifically, 3-deoxyglucosone derivatives having the formula (I): ##STR1## wherein *C is .sup.13 C or .sup.14 C, X is O or N--OR wherein R is Me, Et or H, and Y is SiMe.sub.3 or SiMe.sub.2 tBu, and their production are provided. The measurement of 3-deoxyglucosone derivatives is useful in diagnosing diseases such as diabetes and diseases complicated with diabetes, including diabetic nephrosis, various renal disorders, renal insufficiency, metabolic diseases of carbohydrate and the like.

14 Claims, 5 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 5

---------- KWIC ---------

Detailed Description Text - DETX (64):

Preparation of sample: 200 ng of the .sup.13 C-3-deoxy-D-erythro-hexose-2-urose which is a .sup.13 C.sub.6 -3-deoxyglucosone derivative prepared according to the present invention as an internal standard substance is added to 1 ml of serum from a normal healthy person (or serum from a patient suffering from diabetes or serum from a patient suffering from stomach disease). The sample is then sufficiently mixed with a 0.05 M phosphoric acid buffer solution (pH 7.0) containing glucose oxidase (100 .mu./ml), **catalase (1100 .mu./ml) and mutarotase** (4 .mu./ml), and is incubated at 37.degree. C. for one hour. After addition of 2 ml of ethyl alcohol to the solution, the mixture is subjected to centrifuge at 3000 rpm for 10 minutes to remove denatured proteins. The supernatant liquid is added to Bond Elut SCX cartridge (cation exchange resin 100 mg/ml, Analytichem International Inc., Harbor City, Calif., USA) and is eluted with 3 ml of distilled water. The collected eluate is added to Bond Elut SAX cartridge (anion exchange resin 100 mg/ml, Analytichem International) and is eluted with 3 ml of distilled water. The eluate is collected and is freezedried. The eluate is dissolved in methyl alcohol, transferred into a vial with a screw cap, and the solvent is removed under nitrogen stream. Then, to 200 .mu.l of pyridine is added a solution containing 5 mg of methoxylamine hydrochloride to carry out the reaction at 70.degree. C. for 30 minutes to form a methoxyoxime derivative. After the solvent is removed under nitrogen stream, 20 .mu.l of N,O-bis(trimethylsilyl) trifluoroacetamide containing of triethylamine is added thereto to carry out the reaction at 60.degree. C. for 20 minutes to convert the hydroxyl group into a trimethylsilyl derivative. After left to cool, 5 .mu.l of the sample is analyzed through gas chromatography/mass spectrometry (GC/MS). When serum from a normal person is used, the deviation coefficients among the samples and in the samples are as small as 7% (n=5) and 6.3% (n=5) up to the concentration of 800 ng/ml. The recovery rate of the 3-deoxyglucosone derivative that is added is nearly 100.0% wherein its standard deviation is 4.6% (average value.+-.standard deviation n=5).

US-PAT-NO: 5571719

DOCUMENT-IDENTIFIER: US 5571719 A

TITLE: Catalase, its production and use

DATE-ISSUED: November 5, 1996

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Christensen; Bj.o slashed.rn	Holte	N/A	N/A	DK
E.	S.o slashed.borg	N/A	N/A	DK
Lange; Niels K.	Funabashi	N/A	N/A	JP
Daimon; Kosaku				

APPL-NO: 08/ 117201

DATE FILED: September 15, 1993

PARENT-CASE:

CROSS-REFERENCE TO RELATED APPLICATIONS

This application is a 35 U.S.C. 371 national application of PCT/DK92/00098 filed Mar. 27, 1992, which is incorporated herein by reference.

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
EP	91610024	March 27, 1991
EP	91610050	June 4, 1991

PCT-DATA:
APPL-NO: PCT/DK92/00098
DATE-FILED: March 27, 1992
PUB-NO: WO92/17571
PUB-DATE: Oct 15, 1992
371-DATE: Sep 15, 1993
102(E)-DATE:Sep 15, 1993

US-CL-CURRENT: 435/264, 134/901 , 422/30 , 424/94.4 , 435/192 , 435/254.1 , 435/911 , 514/839

ABSTRACT:

The present invention relates to catalases obtained from a strain of Scytalidium thermophilum or Humicola insolens which retains at least 75% residual activity after 20 minutes at 70.degree. C. and a pH in the range of 9.0-10.5 in the presence of 40 mM polyvinyl pyrrolidone and methods for producing and using same.

15 Claims, 0 Drawing figures

Exemplary Claim Number: 1

---------- KWIC ---------

Detailed Description Text - DETX (13):

A protease-free catalase preparation is generally preferred for better stability. Some strains used in the invention can produce protease, but a protease-free **catalase-producing strain can be obtained by mutation or by transferring the gene encoding catalase** into a protease-free transformant by known methods.

Claims Text - CLTX (14):

12. A process according to claim 11, wherein the strain is S. thermophilum ATCC 28085, ATCC 48409 or CBS 671.88 or H. insolens IMI 158747 or ATCC 34627, or a mutant or **variant thereof which possesses the parent's ability to produce the catalase**.

US-PAT-NO: 5486467

DOCUMENT-IDENTIFIER: US 5486467 A

TITLE: Catalase from Bacillus subtilis IAM 1026 (Ferm BP-4844)

DATE-ISSUED: January 23, 1996

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Fusho; Yuichi	Kanagawa	N/A	N/A	JP
Yajima; Yoshihiro	Chiba	N/A	N/A	JP

APPL-NO: 08/ 354721

DATE FILED: December 6, 1994

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
JP	6-003698	January 18, 1994
JP	6-086745	April 25, 1994

US-CL-CURRENT: 435/192, 435/252.5 , 435/262.5 , 435/839

ABSTRACT:

A microbial catalase having a catalase activity at 0.degree. C. of 95% or more of its catalase activity at 30.degree. C., when measured at pH 7, and a process for producing the same. The microbial catalase preferably has (1) an operative temperature of 0.degree. to 60.degree. C. and an optimum temperature of 0.degree. to 30.degree. C., (2) an optimum pH of 7 to 10, (3) a resistance to 10 mM potassium fluoride, (4) a molecular weight is 65,000.+-.3,000, when measured by SDS polyacrylamide gel electrophoresis, and (5) an isoelectric point is about 4.8, when measured by isoelectric focusing. The catalase is obtainable from Bacillus subtilis IAM 1206 (FERM BP-4844) or a mutant strain thereof.

2 Claims, 5 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 3

---------- KWIC ---------

Detailed Description Text - DETX (29):

In addition to the above, **mutants capable of producing the same catalase**

produced by the above described strain having the aforementioned properties can be obtained using the strain as a parent strain and subjecting it to spontaneous or induced **mutation, which can also be used as producer strains of the catalase** of the present invention. As an example of conventional means for the preparation of such mutant strains, mutants are derived from the parent strain with no artificial mutagenesis or by subjecting it to artificial mutagenic treatment with ultraviolet rays or a mutagenic drug such as N-methyl-N'-nitro-N-nitrosoguanidine (NTG) or the like, and then a mutant strain of interest is selected from the thus derived mutants making use of its changed property. For example, when a **mutant strain having increased catalase** productivity is desired, such a selection may be effected by selecting a colony well grown on a medium containing hydrogen peroxide.

Claims Text - CLTX (1):

1. An isolated catalase obtainable from Bacillus subtilis IAM 1026 (FERM BP 4844) or a **mutant strain thereof having a catalase** activity at 0.degree. C. of 95% or more of its catalase activity at 30.degree. C., when measured at pH 7 and wherein said catalase has:

Claims Text - CLTX (7):

2. A process for producing a catalase, said process comprising culturing Bacillus subtilis IAM 1026 (FERM BP 4844) or a **mutant strain thereof, said catalase** having a catalase activity at 0.degree. C. of 95% or more of its catalase activity at 30.degree. C., when measured at pH and 7 wherein said catalase has:

US-PAT-NO: 5460819

DOCUMENT-IDENTIFIER: US 5460819 A

TITLE: Method for treating PQQ-responsive heavy metal toxicity

DATE-ISSUED: October 24, 1995

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Gallop; Paul M.	Chestnut Hill	MA	N/A	N/A
Paz; Mercedes A.	Brookline	MA	N/A	N/A

APPL-NO: 07/ 910608

DATE FILED: July 6, 1992

PARENT-CASE:

This application is a continuation in part of commonly owned U.S. Ser. No. 07/808,187 filed Dec.13, 1991, now abandoned hereby incorporated by reference.

US-CL-CURRENT: 514/292

ABSTRACT:

Methods are disclosed for treating PQQ-responsive heavy metal toxicity which include the administration of PQQ to a patient in need thereof. The toxicity may be associated with such heavy metals as lead, indium and vanadium.

4 Claims, 6 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 2

---------- KWIC ---------

Detailed Description Text - DETX (30):

In view of SO's toxicity, it has been assumed that there are natural mechanisms for SO removal. The classical understanding of superoxide removal is based on the discovery of enzymes that rapidly dismutate, but do not oxidize, superoxide. An enzyme that dismutates superoxide (SO) to oxygen and hydrogen peroxide (HOOH) is a superoxide dismutase (SOD). SO is one-electron reduced dioxygen and is both an oxidizing and reducing agent and the source of toxic oxidants like hydroxyl radical. SO will dismutate spontaneously to dioxygen and hydrogen peroxide (2 O.sub.2.sup.31 +2H.sup.+.fwdarw.O.sub.2

+HOOH), but it will dismutate 100,000 times more rapidly when catalyzed by SOD. The dismutation of SO leads to the formation of another toxic substance, HOOH, which must be removed by other protective systems. The first of these systems is catalase which converts HOOH into oxygen and water. This process is not believed to be quantitatively important, since **mutant red cells, deficient in catalase** but with normal amounts of SOD, are stable and do not form methemoglobin or hemolyze easily. Stated another way from a clinical perspective, patients with a deficiency in catalase activity ("acatalasemia") are not seriously affected.

US-PAT-NO: 5453374

DOCUMENT-IDENTIFIER: US 5453374 A

TITLE: Trigonopsis transformant producing D-amino acid oxidase

DATE-ISSUED: September 26, 1995

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Furuya; Kaoru	Nobeoka	N/A	N/A	JP
Matsuda; Akio	Fuji	N/A	N/A	JP

APPL-NO: 08/ 096741

DATE FILED: July 23, 1993

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
JP	4-199948	July 27, 1992

US-CL-CURRENT: 435/254.11, 435/189 , 435/49 , 435/911 , 536/23.2

ABSTRACT:

A Trigonopsis variabilis transformed with a recombinant DNA containing a D-amino acid oxidase gene capable of expressing in Trigonopsis variabilis is provided. A process for transforming Trigonopsis variabilis and a process for preparing 7-.beta.-(5-carboxy-5-oxopenetaneamide)cephalosporanic acid by using a transformant of Trigonopsis variabilis are also provided. The transformant of Trigonopsis variabilis shows high DAO activity and low activity of an esterase which interferes with the preparation of cephalosporin C. Accordingly, the Trigonopsis variabilis of the present invention enables one to produce cephalosporin C.

Moreover, the Trigonopsis variabilis of the present invention can be used for the preparation or cephalosporin C merely by treating the cells with toluene so that large scale use is practical.

8 Claims, 10 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 10

---------- KWIC ---------

Detailed Description Text - DETX (3):

T. variabilis used in the present invention includes CBS4095 strain (Central Bureau voor Schimmelcultures), its **catalase-deficient mutant** KC103 which is deposited in National Institute of Bioscience and Human-Technology, Agency of Industrial Science and Technology as Deposit No. FERM BP-4359, **catalase-negative mutant** and other various mutants. Of these, a **catalase-deficient or negative mutant** is preferred because H.sub.2 O.sub.2 is used as a reactant in the preparation of cephalosporin C.

Detailed Description Text - DETX (57):

Using a **catalase-deficient mutant** of the T. variabilis KC103 strain (FERM BP-4359) as a host cell, the same transformation protocol was used to obtain 10 HYB transformants. Again HYB transformants could not be obtained with pHY300 PLK.

Claims Text - CLTX (2):

2. The Trigonopsis variabilis according to claim 1, that is a **catalase-deficient mutant**.

US-PAT-NO: 5360901

DOCUMENT-IDENTIFIER: US 5360901 A

TITLE: Gene sequence encoding Aspergillus niger catalase-R

DATE-ISSUED: November 1, 1994

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Berka; Randy M.	San Mateo	CA	N/A	N/A
Fowler; Timothy	Redwood City	CA	N/A	N/A
Rey; Michael W.	San Mateo	CA	N/A	N/A

APPL-NO: 07/ 845989

DATE FILED: March 4, 1992

US-CL-CURRENT: 536/23.2, 435/192 , 435/254.3 , 435/320.1 , 435/69.1 , 435/71.1

ABSTRACT:

The invention discloses the application of genetic engineering techniques to create novel strains of A. niger which produce high levels of catalase (catR gene product, catalase-R) while generating minimal sodium gluconate waste material.

2 Claims, 36 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 26

---------- KWIC ---------

Detailed Description Text - DETX (16):

As shown in FIG. 5, **catalase production in .DELTA.goxA mutants** was approximately three- to six-fold lower than the parental strain FS-1. We interpret these data to indicate that in the absence of glucose oxidase little hydrogen peroxide is generated, and this in turn has an adverse effect on catalase induction.

US-PAT-NO: 5360732

DOCUMENT-IDENTIFIER: US 5360732 A

TITLE: Production of Aspergillus niger catalase-R

DATE-ISSUED: November 1, 1994

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Berka; Randy M.	San Mateo	CA	N/A	N/A
Fowler; Timothy	Redwood City	CA	N/A	N/A
Rey; Michael W.	San Mateo	CA	N/A	N/A

APPL-NO: 07/ 846181

DATE FILED: March 4, 1992

US-CL-CURRENT: 435/192, 435/254.3 , 435/320.1 , 435/69.1 , 435/71.1 , 536/23.2

ABSTRACT:

The invention discloses the application of genetic engineering techniques to create novel strains of A. niger which produce high levels of catalase (catR gene product, catalase-R) while generating minimal sodium gluconate waste material.

9 Claims, 36 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 26

---------- KWIC ---------

Detailed Description Text - DETX (19):

As shown in FIG. 5, **catalase production in .DELTA.goxA mutants** was approximately three- to six-fold lower than the parental strain FS-1. We interpret these data to indicate that in the absence of glucose oxidase little hydrogen peroxide is generated, and this in turn has an adverse effect on catalase induction.

US-PAT-NO: 5266487

DOCUMENT-IDENTIFIER: US 5266487 A

TITLE: Apparatus for the treatment of lignocellulosic materials

DATE-ISSUED: November 30, 1993

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Hatfield; G. Wesley	Corona del Mar	CA	N/A	N/A

APPL-NO: 07/ 957592

DATE FILED: October 6, 1992

PARENT-CASE:

This application is a continuation of application Ser. No. 07/724,431, filed Jun. 28, 1991, now abandoned which is a continuation of Ser. No. 07/245,711, filed Sep. 16, 1988, now abandoned. This is also a continuation in part of U.S. application Ser. No. 07/047,658, filed May 8, 1987, now U.S. Pat. No. 5,234,827 which is a continuation in part of U.S. application Ser. No. 06/825,856, filed Feb. 4, 1986, now U.S. Pat. No. 4,920,055.

US-CL-CURRENT: 435/294.1, 162/239 , 162/246 , 162/251 , 162/261 , 422/187 , 422/189 , 422/206 , 435/190 , 435/819

ABSTRACT:

An apparatus is disclosed for treating lignocellulosic materials, comprising an enzymatic conversion zone adapted to enzymatically convert alcohol to aldehyde and hydrogen peroxide, a delignification zone, a device for transferring an effluent comprising aqueous hydrogen peroxide from the conversion zone to the delignification zone, a chopper for adding chopped lignocellulosic material to the delignification zone, a separator for separating solid delignified material in the delignification zone from a liquid, and a fermenter adapted to grow alcohol oxidase-producing yeast, and means for transferring alcohol oxidase from the fermenter into the conversion zone.

11 Claims, 1 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 1

---------- KWIC ---------

Brief Summary Text - BSTX (20):

In any of the processes of the invention, the process may also include the step of generating alcohol oxidase enzyme by culturing alcohol-oxidase-producing microorganisms on a carbon source, where the alcohol oxidase enzyme produced by those microorganisms is used in the enzymatic conversion step. This process also includes the removal of catalase enzyme activity produced by many such microorganisms. Catalase activity converts hydrogen peroxide to water. The removal of catalase enzymes, in one embodiment, is accomplished by utilizing non-**catalase producing (cat.sup.-) mutants** of the microorganisms.

Detailed Description Text - DETX (28):

Growing the yeast on xylose is advantageous because growth rates of the yeast on xylose are faster in comparison to growth on methanol and, when cat.sup.- mutants are grown, less selection pressure for strains to **mutate back to catalase**-plus (cat.sup.+).

US-PAT-NO: 5204261

DOCUMENT-IDENTIFIER: US 5204261 A

TITLE: Catalase-negative Pichia pastoris

DATE-ISSUED: April 20, 1993

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Prevatt; William D.	Bartlesville	OK	N/A	N/A
Sperl; George T.	Bartlesville	OK	N/A	N/A

APPL-NO: 07/ 690433

DATE FILED: April 24, 1991

US-CL-CURRENT: 435/255.5, 435/190 , 435/938

ABSTRACT:

A novel strain of P. pastoris and an alcohol oxidase free of catalase activity produced therefrom is provided.

1 Claims, 0 Drawing figures

Exemplary Claim Number: 1

---------- KWIC ---------

Brief Summary Text - BSTX (6):

Accordingly, it is advantageous to be able to produce AO from yeasts while avoid producing catalase. One such process for producing catalase-free AO has been disclosed. For example, European Patent Application 242,007 discloses the production of catalase-free methanol oxidase in **catalase-negative mutants** of Hansenula polymorpha grown in a nutritive medium suitable for the yeasts in the presence of another source of carbon such as glucose, in which methanol induces the expression of the methanol oxidase gene and is also used as a substrate for the oxidase, while the toxic effects of the hydrogen peroxide produced are circumvented by using a suitable mixing ratio of methanol to other source of carbon. However, such Hansenula polymorpha **catalase-negative mutants** yield only 49% of methanol oxidase with respect to the wild-type strain cultured on methanol.

Detailed Description Text - DETX (24):

This example illustrates that the **catalase-negative mutant** P. pastoris NRRL Y-18584 is incapable of growing with methanol as sole source of carbon and energy and is incapable of producing any catalase activity.

Detailed Description Text - DETX (36):

As shown in Table II, the catalase-negative strain NRRL Y-18584 failed to grow in media containing methanol as sole carbon/energy source. It also shows that no **catalase activity was detected in the mutant** cells grown on the mixed substrates tested.

Detailed Description Text - DETX (47):

As shown in Table IV, the **catalase mutant** produced a small amount of alcohol oxidase without an inducer due to partial relief of catabolite repression during glycerol limited growth. Formate appeared to act as a poor inducer and, when added to the feed, increased alcohol oxidase specific activity (2.times.) over background levels; however, formaldehyde showed no ability to induce alcohol oxidase and would be toxic to the culture at higher concentrations. Methanol, at 1-2% concentrations in the feed, caused a 6-9.times. increase in alcohol oxidase specific activity, and was the best inducer. At these concentrations, no methanol was detected in the fermentor output, indicating that methanol was consumed during growth of the culture. However, with 3% methanol in the feed, alcohol oxidase was reduced to background levels and 0.9% methanol was detected in the fermentor output, indicating that the methanol concentration had exceeded the metabolic capabilities of the culture. Butanol, a potential non-utilizable inducer, was toxic to the culture. Catalase activity was never detected.

US-PAT-NO: 4812398

DOCUMENT-IDENTIFIER: US 4812398 A

TITLE: Reagent for measuring amylase activity and measuring method thereof

DATE-ISSUED: March 14, 1989

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Kondo; Hitoshi	Kyoto	N/A	N/A	JP
Kageyama; Masao	Joyo	N/A	N/A	JP

APPL-NO: 06/ 861306

DATE FILED: May 9, 1986

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
JP	60-98282	May 9, 1985

US-CL-CURRENT: 435/14, 435/15 , 435/22

ABSTRACT:

Disclosed is a reagent for measuring amylase activity in body fluids by cleaving an oligosaccharide having a defined chain length with amylase in body fluids to produce a glucose and measuring said glucose, characterized in that the reagent is divided to two portions, the first portion comprises an enzyme for converting a glucose and/or maltose naturally present in body fluids to glucose-6-phosphate, phosphoglucose isomerase, phosphofructokinase and adenosine-5'-triphosphate, and the second portion comprises said oligosaccharide being used as a substrate and a phosphoric acid ester of saccharides and/or saccharic acids; and a method for measuring amylase activity in body fluids comprising;

eliminating glucose and/or maltose naturally present in body fluids with a first reagent comprising an enzyme for converting the glucose and/or maltose to glucose-6-phosphate, phosphoglucose isomerase, phosphofructokinase and adenosine-5'-triphosphate,

adding a second reagent comprising a oligosaccharide substrate and a phosphoric acid ester of saccharides and/or saccharic acids to eliminate the phosphoglucose isomerase activity and to convert the oligosaccharide fragments formed by the action of amylase in body fluids to glucose by means of alpha-glucosidase or maltose phosphorylase, and measuring the amount of the obtained glucose.

9 Claims, 0 Drawing figures

Exemplary Claim Number: 1,6

---------- KWIC ---------

Brief Summary Text - BSTX (19):

The enzymatic methods are classified by enzymes being used. For example, Japanese Patent Publication (examined) Nos. 33956/1982 and 33957/1982 disclose that the elimination of endogeneous glucose and exogeneous maltose is carried out by alpha-glucosidase, hexokinase and glucose-6-phosphate dehydrogenase and lactate dehydrogenase. Japanese Patent Publication (unexamined) No. 19097/1980 discloses that oxamic acid makes inactive the above lactate dehydrogenase at the time of measuring amylse activity. Japanese Patent Publication (examined) No. 33958/1982 discloses that endogeneous glucose is removed with hexokinase and the activity of hexokinase is inactivated by an anionic surfactant such as alpha-olefin sulfonate at the time of measuring amylase activity. Further, Japanese Patent Publication (unexamined) No. 203500/1984 discloses that endogeneous glucose is eliminated with a system of **mutarotase, glucose oxidase and catalase,** and the catalase reaction is then stopped with sodium azide. However, prevention of the reaction to be stopped is not completely done and even high concentration of the above-described substance takes long time to stop the reaction. Also aberration of the measured value is often occurred in these enzymatic elimination methods.

US-PAT-NO: 4697006

DOCUMENT-IDENTIFIER: US 4697006 A

TITLE: Modified oligosaccharides used as substrate for measuring .alpha.-amylase activity

DATE-ISSUED: September 29, 1987

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Ikenaka; Tokuji	Sakai	N/A	N/A	JP
Omichi; Kaoru	Toyonaka	N/A	N/A	JP

APPL-NO: 06/ 907358

DATE FILED: September 15, 1986

PARENT-CASE:

This is a division of application Ser. No. 532,099 filed Sept. 14, 1983, now U.S. Pat. No. 4,622,295, issued Nov. 1, 1986.

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
JP	57-161457	September 16, 1982
JP	58-138344	July 28, 1983

US-CL-CURRENT: 536/17.2, 536/17.3 , 536/17.9 , 536/18.7 , 536/4.1

ABSTRACT:

A modified oligosaccharide having at most 7 glucose units and having a substituent selected from the group consisting of 2-aminopyridyl, 3-aminopyridyl, anilino, methylanilino, hydroxyanilino, carboxyphenylamino and hydroxyl groups at at least one end moiety of said oligosaccharide is suitable as substrate for measuring .alpha.-amylase activity or for measuring .alpha.-amylase isozymes.

4 Claims, 5 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 3

--------- KWIC ---------

Detailed Description Text - DETX (67):

40 mmole of Good's buffer solution (PIPES), 50,000 units of glucoamylase, 100,000 units of glucose oxidase, 200 units of **mutarotase, 500,000 units of catalase,** 0.7 mmole of 4-aminoantipyrine, 15 mmole of sodium chloride and 5 mmole of calcium chloride were dissolved in purified water, made pH 6.9 with sodium hydroxide and the total volume was made 1 liter.

US-PAT-NO: 4622295

DOCUMENT-IDENTIFIER: US 4622295 A

TITLE: Modified oligosaccharides used as substrate for measuring .alpha.-amylase activity

DATE-ISSUED: November 11, 1986

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Ikenaka; Tokuji	Sakai	N/A	N/A	JP
Omichi; Kaoru	Toyonaka	N/A	N/A	JP

APPL-NO: 06/ 532099

DATE FILED: September 14, 1983

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
JP	57-161457	September 16, 1982
JP	58-138344	July 28, 1983

US-CL-CURRENT: 435/22, 435/14 , 435/201 , 536/123.1 , 536/17.9 , 536/18.7 , 536/55.1

ABSTRACT:

A modified oligosaccharide having at most 7 glucose units and having a substituent selected from the group consisting of 2-aminopyridyl, 3-aminopyridyl, anilino, methylanilino, hydroxyanilino, carboxyphenylamino and hydroxyl groups at at least one end moiety of said oligosaccharide is suitable as substrate for measuring .alpha.-amylase activity or for measuring .alpha.-amylase isozymes.

12 Claims, 5 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 3

---------- KWIC ---------

Detailed Description Text - DETX (65):

40 mmole of Good's buffer solution (PIPES), 50,000 units of glucoamylase, 100,000 units of glucose oxidase, 200 units of **mutarotase, 500,000 units of catalase,** 0.7 mmole of 4-aminoantipyrine, 15 mmole of sodium chloride and 5

mmole of calcium chloride were dissolved in purified water, made pH 6.9 with sodium hydroxide and the total volume was made 1 liter.

US-PAT-NO: 4556638

DOCUMENT-IDENTIFIER: US 4556638 A

TITLE: Microorganism capable of degrading phenolics

DATE-ISSUED: December 3, 1985

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Pillis; Lewis J.	Roanoke	VA	N/A	N/A
Davis; Lois T.	Salem	VA	N/A	N/A

DISCLAIMER DATE: 20010508

APPL-NO: 06/ 524631

DATE FILED: August 19, 1983

PARENT-CASE:

This is a continuation of application Ser. No. 372,775, filed Apr. 28, 1982, now U.S. Pat. No. 4,447,539, which is a continuation of application Ser. No. 229,025 filed Jan. 27, 1981, now U.S. Pat. No. 4,352,886.

US-CL-CURRENT: 435/253.3, 435/877

ABSTRACT:

Mutant microorganism, Pseudomonas putida CB-173 degrading phenolics, and at a temperature as low as, e.g., about 1.degree. to 4.degree. C., at a faster rate than known Pseudomonas putida type strains, and process for treating wastewater containing phenolics using the mutant microorganism strain Pseudomonas putida CB-173.

1 Claims, 0 Drawing figures

Exemplary Claim Number: 1

---------- KWIC ---------

Brief Summary Text - BSTX (21):

The mutant strain is a strict aerobe which produces a diffusible yellow-green fluorescent pigment. On metabolism in the presence of nitrate, the mutant strain does not produce nitrate reductase. The **mutant strain is "catalase** positive" and weakly positive for oxidase. There is no gelatin liquefaction by the mutant strain in eight days. The mutant strain utilizes

various amines for growth, but does not use the alcohol m-inositol. A suitable growth temperature range is from about 1.degree. C. to about 35.degree. C. with optimal growth occurring at 25.degree.-30.degree. C. No growth is observed in two days at 37.degree. C.

US-PAT-NO: 4447539

DOCUMENT-IDENTIFIER: US 4447539 A

TITLE: Microorganism capable of degrading phenolics

DATE-ISSUED: May 8, 1984

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Pillis; Lewis J.	Roanoke	VA	N/A	N/A
Davis; Lois T.	Salem	VA	N/A	N/A

APPL-NO: 06/ 372775

DATE FILED: April 28, 1982

PARENT-CASE:

This is a continuation of application Ser. No. 229,025, filed Jan. 27, 1981, now U.S. Pat. No. 4,352,886.

US-CL-CURRENT: 435/253.3, 435/877

ABSTRACT:

Mutant microorganism, Pseudomonas putida CB-173 degrading phenolics, and at a temperature as low as, e.g., about 1.degree. to 4.degree. C., at a faster rate than known Pseudomonas putida type strains, and process for treating wastewater containing phenolics using the mutant microorganism strain Pseudomonas putida CB-173.

1 Claims, 0 Drawing figures

Exemplary Claim Number: 1

---------- KWIC ---------

Brief Summary Text - BSTX (21):

The mutant strain is a strict aerobe which produces a diffusible yellow-green fluorescent pigment. On metabolism in the presence of nitrate, the mutant strain does not produce nitrate reductase. The **mutant strain is "catalase** positive" and weakly positive for oxidase. There is no gelatin liquefaction by the mutant strain in eight days. The mutant strain utilizes various amines for growth, but does not use the alcohol m-inositol. A suitable growth temperature range is from about 1.degree. C. to about 35.degree. C. with optimal growth occurring at 25.degree.-30.degree. C. No growth is

observed in two days at 37.degree. C.

US-PAT-NO: 4375510

DOCUMENT-IDENTIFIER: US 4375510 A

TITLE: Selective medium composition and method for the detection of Actinomyces viscosus and Actinomyces naeslundii

DATE-ISSUED: March 1, 1983

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Jordan; Harold V.	Wellesley Hills	MA	N/A	N/A

APPL-NO: 06/ 240769

DATE FILED: March 5, 1981

US-CL-CURRENT: 435/34, 435/243 , 435/252.1 , 435/253.6 , 435/826

ABSTRACT:

A selective medium composition for the growth and detection of Actinomyces viscosus or Actinomyces naeslundii, which composition comprises: a solid medium selective to induce the growth of Actinomyces viscosus or Actinomyces naeslundii; a nutrient agent to induce the substantial growth of Actinomyces viscosus or Actinomyces naeslundii; a cadmium compound; a fluoride compound; a flavine compound; and the cadmium compound, the fluoride compound and the flavine compound all present in a concentration sufficient to inhibit the substantially full growth of interfering microorganisms, but in a concentration insufficient to inhibit the substantial growth of Actinomyces viscosus or Actinomyces naeslundii.

29 Claims, 0 Drawing figures

Exemplary Claim Number: 1

---------- KWIC ---------

Detailed Description Text - DETX (30):

With currently available culture techniques, it is necessary to evaluate A. viscosus and A. naeslundii populations in clinical material simultaneously. The similarity of these two species is well documented..sup.7, 9, 10 Gerencser and Slack.sup.9 pointed out that the similarities between the two species were so great that A. viscosus may be considered a **catalase positive variant** of A. naeslundii. However, they felt that adequate differences existed to maintain them as separate species at that time. The present study demonstrates that

this similarity between the two species also includes their response to different types of selective agents.

US-PAT-NO: 4352886

DOCUMENT-IDENTIFIER: US 4352886 A

TITLE: Process for treating wastewater containing phenolics and microorganism capable of degrading phenolics

DATE-ISSUED: October 5, 1982

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Pillis; Lewis J.	Roanoke	VA	N/A	N/A
Davis; Lois T.	Salem	VA	N/A	N/A

APPL-NO: 06/ 229025

DATE FILED: January 27, 1981

US-CL-CURRENT: 435/262, 210/601 , 210/611 , 210/909 , 435/877

ABSTRACT:

Mutant microorganism, Pseudomonas putida CB-173 degrading phenolics, and at a temperature as low as, e.g., about 1.degree. to 4.degree. C., at a faster rate than known Pseudomonas putida type strains, and process for treating wastewater containing phenolics using the mutant microorganism strain Pseudomonas putida CB-173.

7 Claims, 0 Drawing figures

Exemplary Claim Number: 1

---------- KWIC ---------

Brief Summary Text - BSTX (21):

The mutant strain is a strict aerobe which produces a diffusible yellow-green fluorescent pigment. On metabolism in the presence of nitrate, the mutant strain does not produce nitrate reductase. The **mutant strain is "catalase** positive" and weakly positive for oxidase. There is no gelatin liquefaction by the mutant strain in eight days. The mutant strain utilizes various amines for growth, but does not use the alcohol m-inositol. A suitable growth temperature range is from about 1.degree. C. to about 35.degree. C. with optimal growth occurring at 25.degree.-30.degree. C. No growth is observed in two days at 37.degree. C.

US-PAT-NO: 4307195

DOCUMENT-IDENTIFIER: US 4307195 A

TITLE: Immobilized enzyme membrane

DATE-ISSUED: December 22, 1981

INVENTOR-INFORMATION:

NAME	CITY	STATE	ZIP CODE	COUNTRY
Karasawa; Yoshiharu	Hitachi	N/A	N/A	JP
Kohkame; Hisashi	Hitachi	N/A	N/A	JP

APPL-NO: 06/ 080026

DATE FILED: September 28, 1979

FOREIGN-APPL-PRIORITY-DATA:

COUNTRY	APPL-NO	APPL-DATE
JP	53-119256	September 29, 1978

US-CL-CURRENT: 204/403.1, 204/403.11 , 435/179 , 435/181 , 435/182 , 435/287.9

ABSTRACT:

An immobilized enzyme membrane for use at the working face of an electrochemical electrode is prepared which comprises an asymmetrical membrane integrally formed from a skin layer substantially incapable of permeating an enzyme therethrough but capable of permeating a gas and a liquid, and a sponge layer having pores containing an enzyme immobilized therein by crosslinking and which pores intercommunicate with one another throughout the sponge layer and provide sufficient porosity for retaining a necessary amount of the enzyme. The immobilized enzyme membrane contains a large amount of enzyme, has good diffusion and permeability, and has stabilized enzyme activity for a prolonged period of time. Additionally, there is obtained a quick response time and good analytical precision when the immobilized enzyme membrane is used at the working face of an electrode of electrochemical measuring instruments.

7 Claims, 3 Drawing figures

Exemplary Claim Number: 1

Number of Drawing Sheets: 1

---------- KWIC ---------

Detailed Description Text - DETX (13):

The enzyme used in the present invention includes oxidases such as glucose oxidase, amino acid oxidase, cholesterol oxidase, uricase, etc., urease, creatininase, glutaminase, penicillinase, **catalase, peroxidase, invertase, mutanotase,** amylase, protease such as papain, trypsin, etc., and glucose isomerase, etc. These enzymes can be immobilized singly or in a combination of two or more of them. That is, a combination of cholesterol esterase and chloresterol oxidase, a combination of glucose oxidase and catalase, and a combination of invertase and glucose oxidase or mutorotase, or the like can be improbilized together.

Claims Text - CLTX (7):

7. An enzyme electrode apparatus according to claim 1, wherein the enzyme immobilized within said pores of the sponge layer by cross-linking is selected from the group consisting of glucose oxidase, amino acid oxidase, cholesterol oxidase, uricase, urease, creatininase, glutaminase, penicillinase, **catalase, peroxidase, invertase, mutanotase,** amylase, protease, and glucose isomerase.